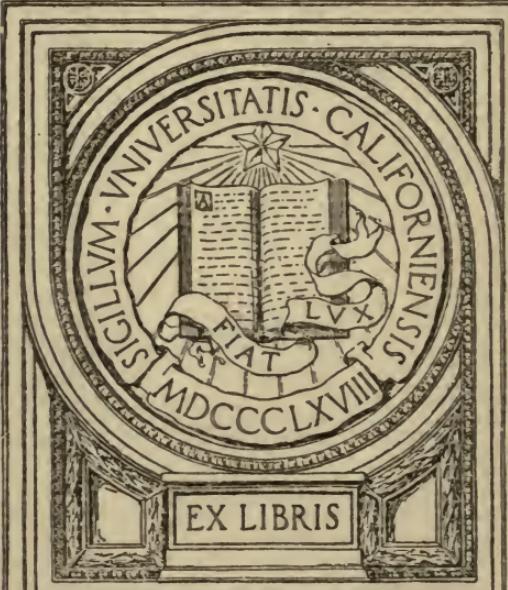




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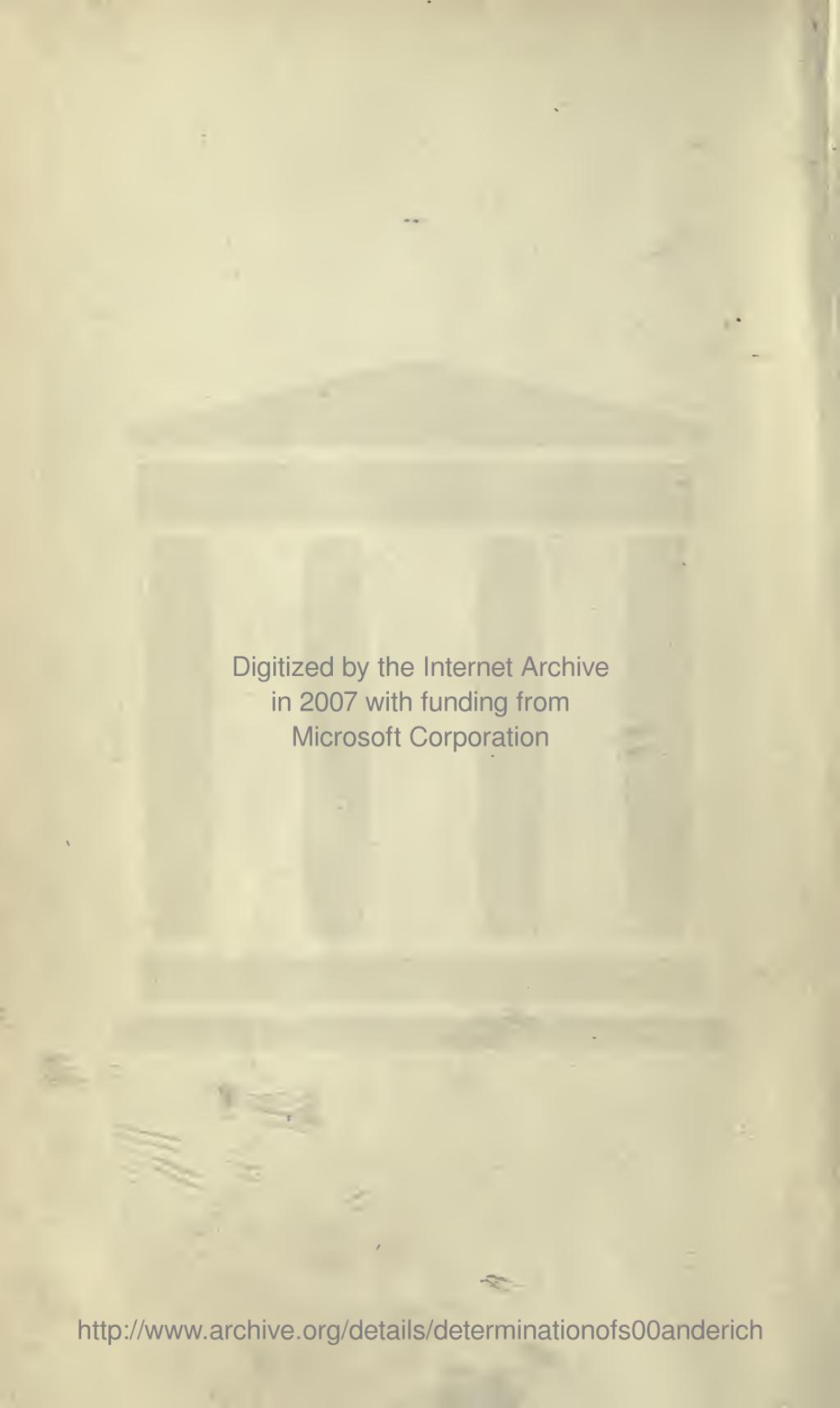


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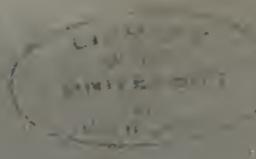






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# STUDIES IN EDUCATION

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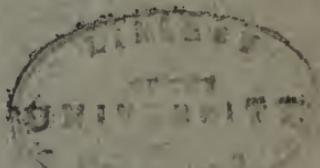
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# UNIVERSITY OF IOWA STUDIES

## STUDIES IN EDUCATION



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VOLUME II

NUMBER 1

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## DETERMINATION OF A SPELLING VOCABULARY BASED UPON WRITTEN CORRESPONDENCE

BY

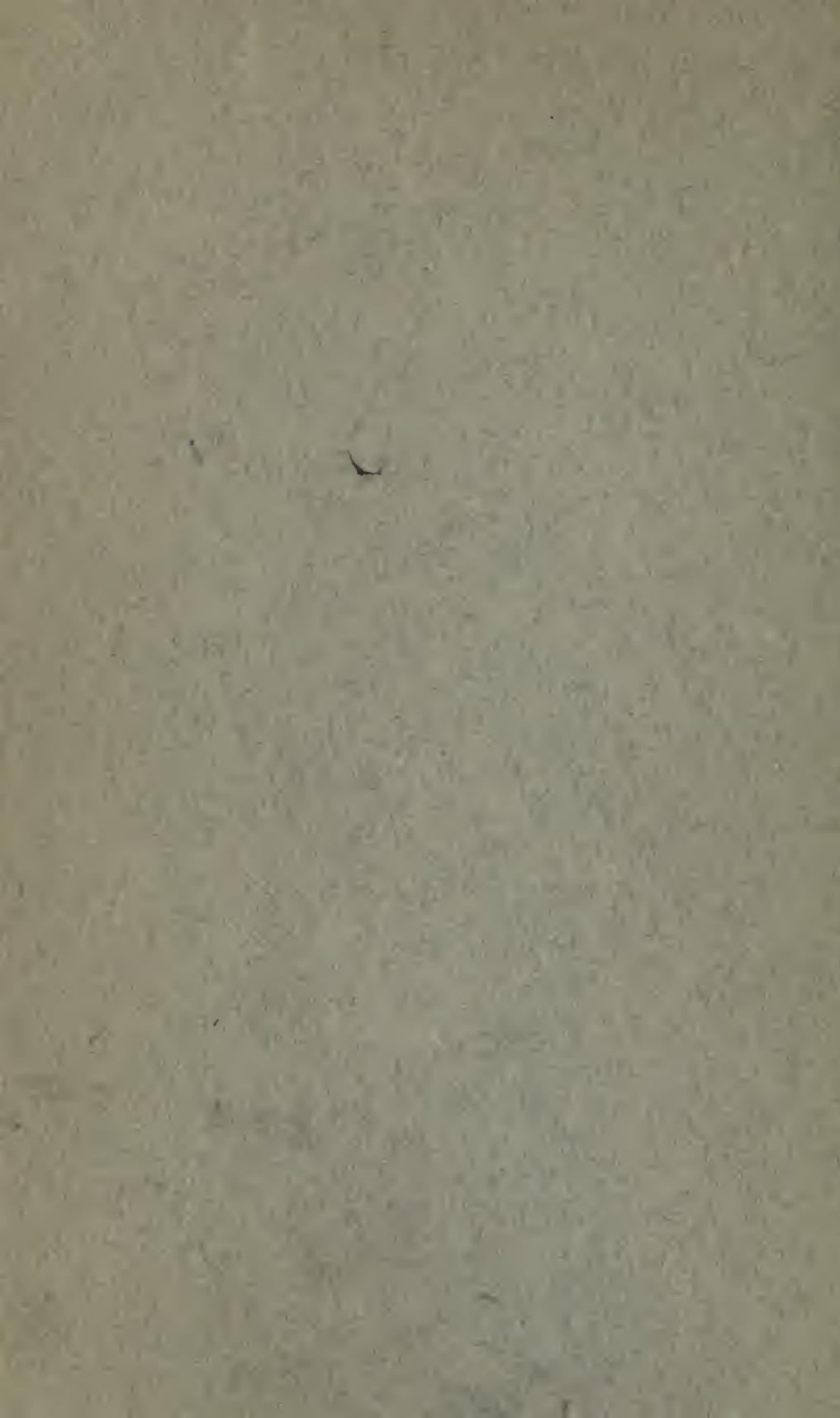
WILLIAM NICLAUS ANDERSEN

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PUBLISHED BY THE UNIVERSITY, IOWA CITY

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# UNIVERSITY OF IOWA STUDIES IN EDUCATION

CHARLES L. ROBBINS, PH. D., Editor

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VOLUME II

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NUMBER 1

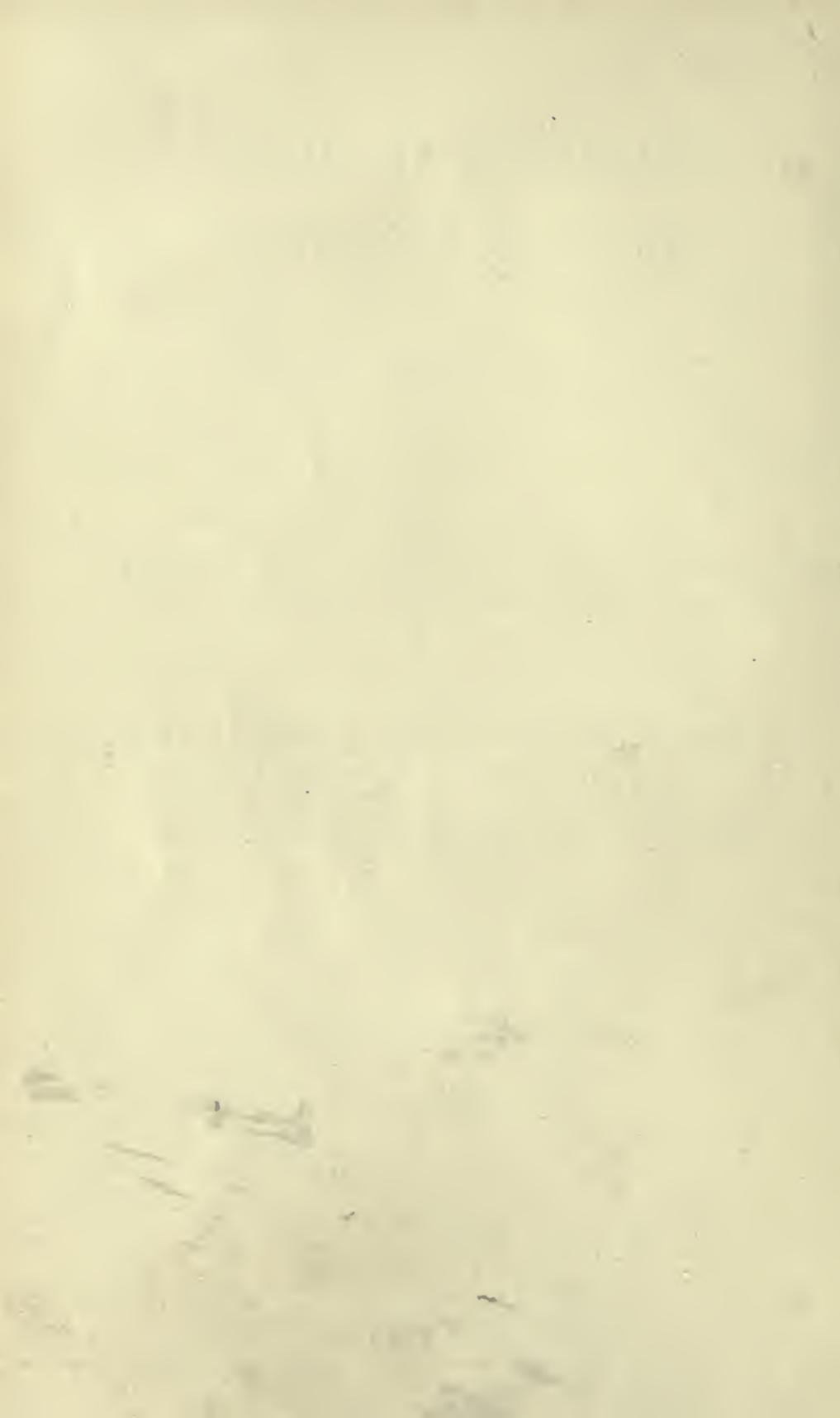
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WILLIAM NICLAUS ANDERSEN, PH. D.

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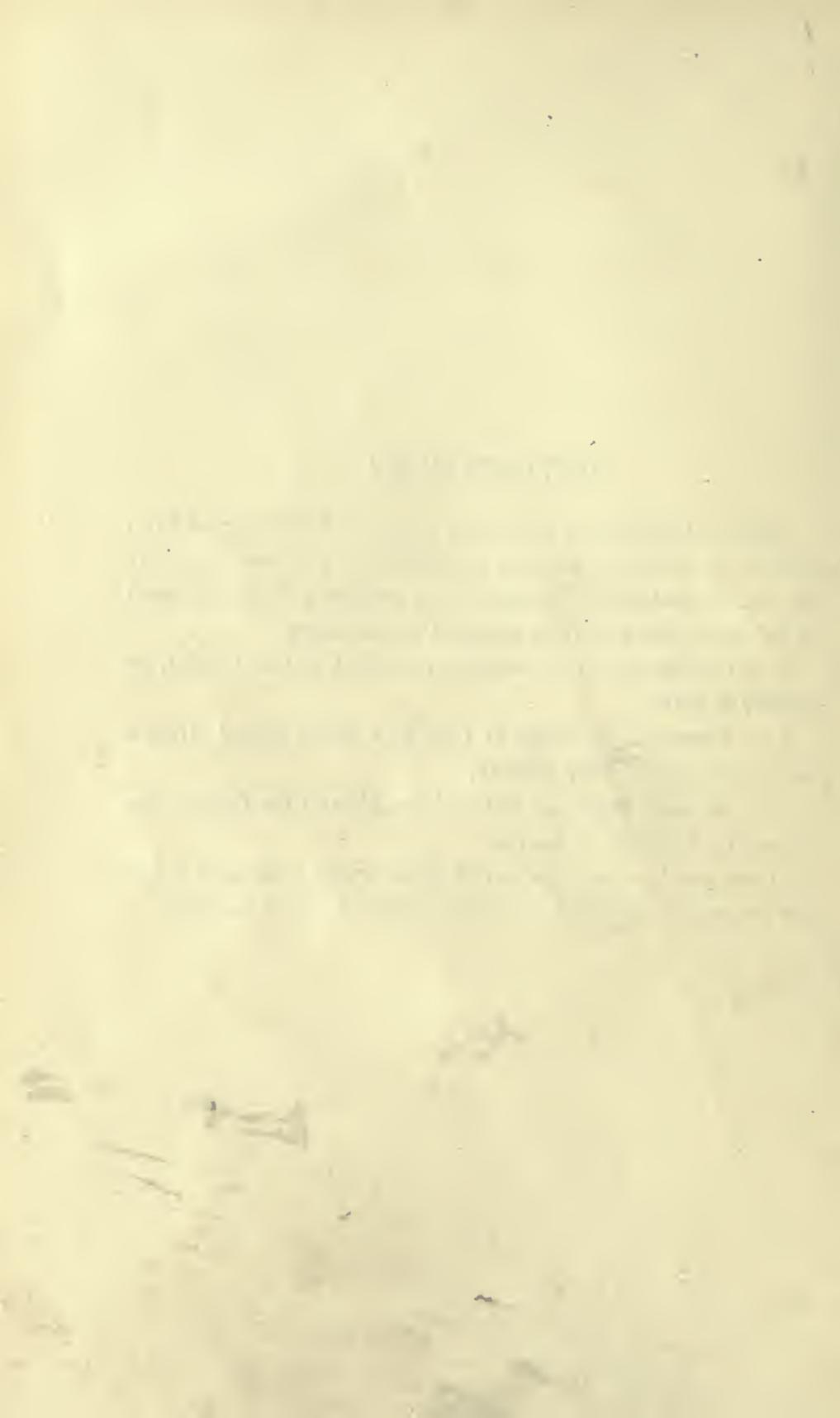


## EDITOR'S NOTE

After an interruption of several years, the University of Iowa Studies in Education are now resumed with this monograph by Dr. W. N. Andersen. The first three numbers, which appeared in the years 1911 and 1912, included the following:

1. *A Comparison of Elementary and High School Grades*, by Walter R. Miles;
2. *A Comparative Study of City and Rural School Attendance*, by Ernest Wilder Fellows;
3. *A Rational Basis for Determining Fitness for College Entrance*, by Franklin O. Smith.

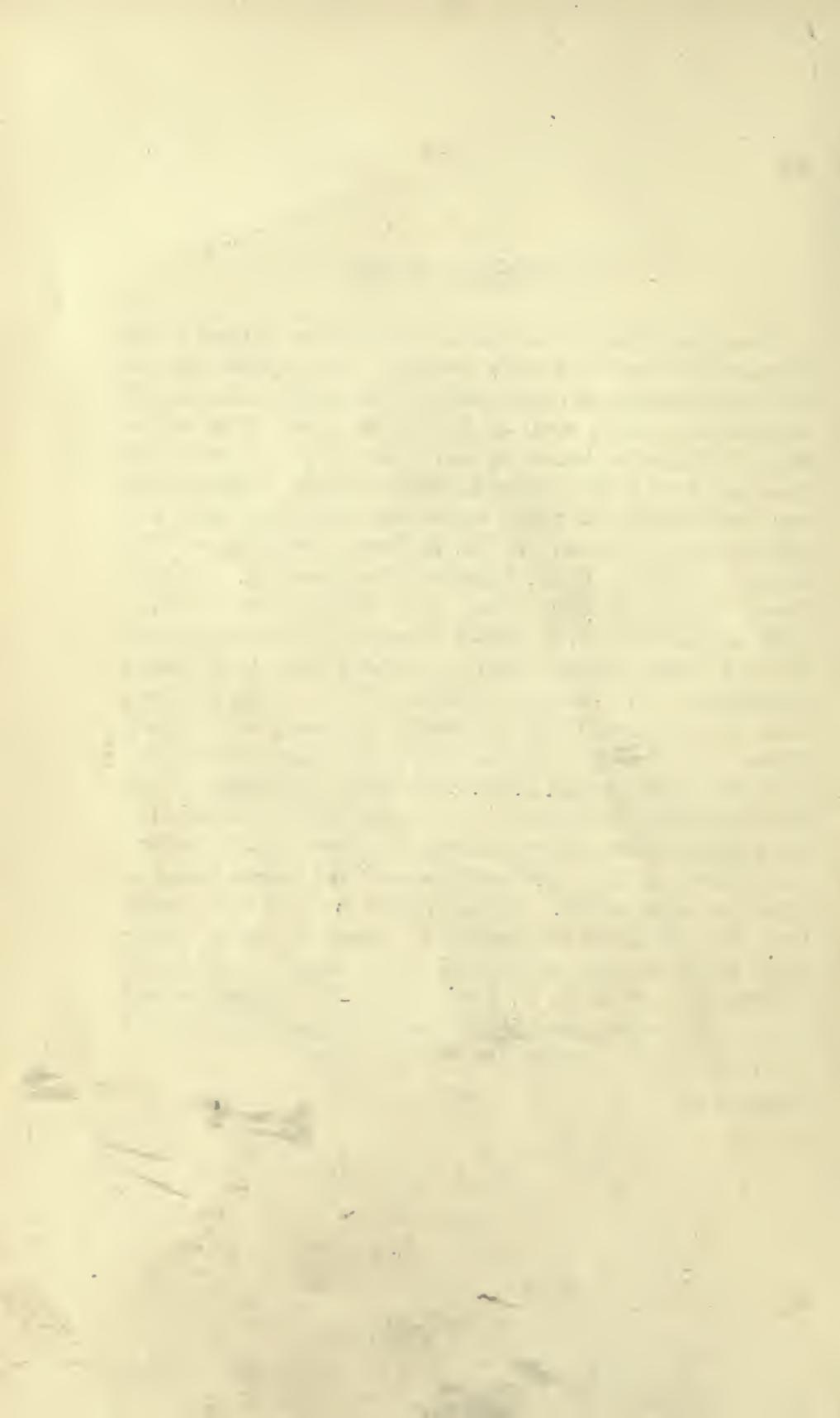
As these numbers are now out of print, a new volume of which the present monograph is the first number is begun herewith.



## AUTHOR'S NOTE

The author wishes to express his indebtedness to those whose assistance has made this study possible. It is only through the efficient coöperation of superintendents, principals, teachers, and children that such a study as this can be made. It is with a sense of obligation, therefore, that I express my thanks to all those who have helped in the collection of data. Among these are the following 22 school superintendents, principals, and school officers of Iowa: H. W. Anderson, Dubuque; W. W. Ballard, Rockford; G. H. Brinegar, Bloomfield; M. G. Clark, Sioux City; H. H. Gold, Neola; E. T. Housh, Carroll; W. I. Griffith, Waverly; W. S. Smiley, Stuart; F. J. Nieland, Huxley; F. T. Vasey, Charles City; A. O. Tiss, Creseco; O. E. Smith, Indianola; S. W. Johnson, Oelwein; H. P. Smith, Newton; B. K. Orr, Stanton; C. H. Studebaker, Jefferson; J. M. Evans, Tabor; J. L. Packer, West Liberty; P. C. Packer, Iowa City; R. A. Greenslit, Baxter; J. W. Studebaker, Des Moines; J. H. Beveridge, Council Bluffs. A. J. Burton of Rock Island, Ill., also supplied letters written in Iowa. To these and the teachers and children of their respective schools the author acknowledges his indebtedness. Special thanks are due Dr. Ernest Horn for suggesting the method of attack in using public school pupils to score the material and to insure a wide distribution, and to Prof. E. E. Lewis for helpful suggestions and advice. Acknowledgement is also due Drs. Irving King, Rolland Stewart, Forest C. Ensign, and Fred C. Ayer.

August, 1917.



## CHAPTER I

### STUDIES OF WRITING VOCABULARY

Since the beginning of the present century the scientific study of education has begun to assume a place of preëminent importance. In three lines there has been notable progress: (1) the selection of subject matter; (2) the determination of efficient methods of teaching and learning; and (3) the formulation of more or less objective measurements of educational results. Perhaps in no subject has more experimental work been done than in spelling.

A pioneer, to whom it is hardly possible to give too much credit, was Dr. J. M. Rice, whose presentation of *The Futility of the Spelling Grind* may be considered the beginning of a long series of studies in the selection of words to be taught, the methods of measuring results, and methods of teaching. Although his word lists were not compiled scientifically and his methods of measurement were crude, he did much to open up new fields of investigation.

As the study which is presented here is an attempt to determine a spelling vocabulary, it seems well to give a critical account of the contributions of others who have been working in the same field. Criticisms are made with a full recognition of the value of these studies as pioneer contributions.

#### STUDY BY REV. J. KNOWLES

In 1904 a study was made by the Rev. J. Knowles in London, England, and published in a pamphlet entitled *The London Point-System of Reading for the Blind*. This investigator took passages from the English Bible and from various authors, containing in all about 100,000 words. He made a list of 353 words which occurred most frequently. These 353 words with their repetitions, according to Knowles, were found to account for three-fourths of the total number of words used. No record was made in this study of the total number of different words.

#### STUDY BY R. C. ELDRIDGE<sup>34</sup>

R. C. Eldridge of Niagara Falls, New York, made a study of

the vocabularies of 250 different articles taken from two pages each of four Buffalo, New York, Sunday newspapers of different dates. The 250 articles were found to contain 43,989 running words and 6002 different words. Proper nouns and numerals were not recorded. Four separate lists were made of the words and these were merged into a single list, in which the words were arranged in order of their frequency of occurrence. According to Eldridge, the first 250 words in the list constitute the chief English sentence-forming words, and the first 750 words with their repetitions were found to constitute three-fourths of all the words tabulated.

#### STUDY BY L. P. AYRES<sup>3</sup>

In a study conducted by Dr. L. P. Ayres of the Russell Sage Foundation, and published in 1913, the first word of every line of 2000 short letters written by 2000 persons, was tabulated. Twenty-three thousand six hundred twenty-nine words were thus tabulated out of a total of 101,160. The total number of different words, however, was only 2001. Of these 2001 different words 750 occurred only once each, and only 542 occurred six or more times each. These words were arranged in order of their frequency. According to the author these letters had been secured from twelve sources and represented a wide range of different interests.

The first word in each line was scored and a separate tabulation was made of the salutations and endings. In view of the magnitude and variety of this correspondence and the small number of different words that were found, it becomes doubtful that this method of scoring is sufficiently reliable to determine the number of words used. It seems almost incredible that in 2000 letters written by 2000 different persons only 2001 different words should be used, and that only 1251 of these were used more than once in all the letters.

#### STUDY BY W. F. JONES<sup>52</sup>

The material used in this investigation consisted of the approximate writing vocabularies of 1050 grade students. Of this number there were about 150 pupils in each grade above the first. They were divided among four states as follows: one third from Illinois, one third from Maryland, and the

remaining third from Iowa and South Dakota. The number of themes per student ranged from 56 to 105. The total number of themes written and examined was a little over 75,000, and their average length was almost 190 words. The total number of words from these themes including repetitions was estimated by Jones as approximately 15,000,000. But here also the total number of different words was only about 4532. Unfortunately Jones did not give the total number of words nor did he give the frequency of those found.

In view of the general criticism regarding some of the subject-matter taught in our schools in the past, it may be questioned whether the words used in writing themes by pupils in school are a fair representation of those used in writing in life outside of school.

#### STUDY BY W. A. COOK AND M. V. O'SHEA<sup>26</sup>

In 1914 W. A. Cook and M. V. O'Shea tabulated some 200,000 words taken from the family correspondence of 13 adults. Five of these correspondents were men and eight were women with varying degrees of academic training and representing a variety of environments and interests. While 200,000 running words were tabulated the total number of different words used was found to be only 5230. Of these 5230 words 1804 occurred only once. Hence only about 65½ per cent of the words occurred more than once.

It is doubtful whether the words found in the correspondence of 13 individuals representing different environments and interests can be taken as representative of the words commonly used by the general public. One scholarly individual of varied interests and changing environment might easily affect the representative value of such a list by increasing the number of words out of all proportion to the number commonly used in writing.

#### JOHNSTOWN, PENNSYLVANIA, LIST

During 1912-13 a special study of spelling was made by the teachers and grade supervisors of the Johnstown, Pennsylvania, public schools. The results of this study were published in 1913 in a monograph entitled, *The Teaching of Spelling*. According to the monograph, a list of 4032 words was made up

in the following manner: Each year a carefully selected list of words was chosen for each grade from lessons in reading, language, geography, history, nature study, and arithmetic—words most commonly used in written work. The final list consisted of two new words for each day in the first four grades, and five words a day for the remaining four grades, with Friday of every week left for review work. These words were intended only for the spelling period. It is conceded by the authors that pupils will have to learn to spell many additional words in their other studies. Inasmuch as the selection of these words was arbitrary the reliability of the list as representing words most commonly used may be said to depend, in a measure at least, on the judgment of those who selected the words.

#### STUDY BY BOSTON ELEMENTARY SCHOOL TEACHERS

The teachers from the 70 elementary districts of Boston prepared a list of words from those most often misspelled by pupils in their written work. The words recorded by the teachers were combined into a complete list for each grade, arranged in alphabetical order. From this list minimum and supplementary lists were compiled, largely on the basis of the number of times the words were reported by different teachers. Altogether there were 15,223 words recorded by the different teachers, but in this number there were only 5231 different words. Fifty-five per cent of this number or 2883 words were reported by only one teacher. Only 2348 words were reported by two or more teachers. The final minimal and supplementary lists compiled contained 840 and 2542 words respectively.

This study is interesting and very significant in so far as it shows which words were most frequently misspelled. It does not show, however, whether these are the words that are commonly used in writing.

#### STUDY BY EFFIE McFADDEN AND FREDERICK BURK

Miss Effie McFadden and Dr. Frederick Burk of the State Normal School, San Francisco, California, prepared a list comprising all the words used two or more times in 91 letters. These letters were written by Normal students, their relatives and friends. In this study 6916 different words were found in a total of 19,288 running words. Of these 6916 different words

only 840 were used more than once. This means that the letters averaged about 212 words in length; that nearly 36 per cent of the total number of running words was composed of different words; and that, on the average, only about nine words were used more than once in each of the letters. According to Burk, proper nouns were not recorded and not all derivative forms were counted as separate words.

The percentage of different words found in this study is extraordinarily high as compared with the findings of other investigators. Notwithstanding the fact that the study is very limited in scope and that the correspondence was probably of a diverse and varied nature, it seems strange that the difference should be so great.

#### STUDY BY C. K. STUDLEY AND ALLISON WARE<sup>68</sup>

Another study published in 1914 was that of C. K. Studley and Allison Ware of the Chico, California, State Normal School. They prepared a list of 3470 words. The list is a compilation of the words found (1) in Dr. Leonard P. Ayres' *Spelling Vocabularies of Personal and Business Letters*, (2) in the list prepared by Miss Effie McFadden and Dr. Frederick Burk of the San Francisco, California, State Normal School, and (3) in a list derived from 920 compositions written by the children of the Chico, California, District. The 920 compositions were selected at random from the city and rural schools of the district of Chico. In these compositions some 200,000 words were inspected and from a total number of 3459 different words a final list of 2088 was prepared. The 1371 words omitted from the final list were mostly different forms of the same word, proper nouns, and technical words.

#### THE AYRES LIST OF ONE THOUSAND WORDS<sup>69</sup>

Leonard P. Ayres in his *Measuring Scale for Ability in Spelling*, published by the Russell Sage Foundation in 1915, has a list of 1000 words which occur most frequently in the following four studies: (1) *Vocabularies of Personal and Business Letters*, by Leonard P. Ayres, (2) Cook and O'Shea's study of personal letters, (3) Eldridge's *Six Thousand Common English Words*, (4) *The London Point System of Reading for the Blind*, by Rev. J. Knowles. According to the author, "The

list of 1000 words finally selected was determined upon by finding the frequency with which each word appeared in the tabulations of each study, weighing that frequency according to the size of the base of which it was a part, adding the four frequencies thus obtained, and finding their average."

The extent to which words compiled from lists made by others are representative of words most commonly used depends, of course, on the representative value of the lists from which they are taken. With regard to the above study it should be borne in mind that two of the original studies from which this list was compiled were not studies of written correspondence.

#### STUDY BY E. E. LEWIS

In 1915 a list of 2040 words was prepared by E. E. Lewis of the College of Education, University of Iowa. In the words of A. M. Deyoe, Superintendent of Public Instruction, "the list has been prepared for special use in the High School Normal Training Courses and will be made the basis of the Normal Training examination in orthography. One hundred words will be selected from this list at each normal training examination and the grade in orthography will be determined wholly from the results of the examination."

The words in this list were selected arbitrarily, principally from those found in the word lists made by the following: J. Knowles, H. C. Eldridge, L. P. Ayres, W. A. Cook, and M. V. O'Shea.

#### THE HOMER J. SMITH LISTS<sup>74</sup>

Homer J. Smith of the Milwaukee Trade School compiled three lists from a total of 1138 words. These words were chosen from 75,000 running words found in themes of the elementary school pupils of Madison, Wisconsin. (grades 3-8 inclusive). The first list contained 272 words which were used by the pupils in all of the grades; the second list contained 542 words used by at least three of the grades; the third list contained 344 words used by pupils in two different grades. Personal, demonstrative, and possessive pronouns; numerals; about 30 common prepositions; verbs and adverbs; and local proper words were omitted.

Here also the question might be raised as to whether words taken from pupils' themes are representative of words used in life outside of school.

### THE EMPORIUM, SAN FRANCISCO, AND HALE'S DEPARTMENT STORE LIST

The list of words compiled by the Emporium, San Francisco, and Hale's Department Store was obtained by an analysis of 400 letters. These 400 letters contained a total of 10,834 words, including repetitions. In this number there were found to be 1576 different words, counting inflections and derivatives separately, and 1058 different words listing inflected and derived forms under the root word.

### THE CALIFORNIA BARREL COMPANY LIST

The California Barrel Company compiled a list of words by analyzing 100 letters of their correspondence. These letters were found to contain a total of 2412 words, including repetitions. In this number there were 665 different words.

### THE STUDY BY HUGH CLARK PRYOR<sup>74</sup>

During the past few years an extensive study and compilation of a "minimal" spelling list has been made by Hugh Clark Pryor of the University of Colorado. The words in this list, according to the author, were taken from the following spelling tests and word lists: (1) *Concrete Investigation of the Material of English Spelling*, W. F. Jones; (2) *The Child's Own Spelling Book*, W. F. Jones; (3) *Common Essentials in Spelling*, C. K. Studley and Allison Ware; (4) *The Need of Intensive Work in Spelling* (unpublished), Algar Woolfolk; (5) The list compiled by Homer J. Smith; (6) The list prepared by the teachers and supervisors of the public schools of Johnstown, Pa.; (7) *Spelling in the Boston Schools*, a list prepared by the teachers of the public schools; (8) *Measuring Scale for Ability in Spelling*, Leonard P. Ayres; (9) *Champion Spelling Book*, Warren E. Hicks; (10) *One Thousand Words*, W. E. Chancellor; (11) *The Child and his Spelling*, W. A. Cook and M. V. O'Shea; (12) *Six Thousand English Words*, R. C. Eldridge.

Each of these lists was numbered and all the words were checked off in a dictionary. After this was done a final list of 1309 words was compiled, each of which occurred in at least

six out of the 12 lists examined. In addition to these 1309 words, 169 were taken from the Ayres Scale. In this way a final list of 1478 words was made. These words were arranged by grades and submitted as a tentative graded list by the author.

#### COMPARISON OF DIFFERENT STUDIES

In comparing the total number of words and the number of different words found in the various studies the reader is again cautioned that some of the findings are not strictly comparable with others because the methods of scoring were not exactly the same. In some of these studies inflected and derived words were listed separately in the list of different words while in a few cases they were listed under the root word. In the majority of the studies the method of recording is sufficiently explained, in others it is implied from the nature of the data.

The most significant thing about all these studies is the limited number of words found to be commonly used. This fact is so contrary to opinions formerly held that there is still a lingering doubt concerning the reliability of the results, and a feeling that more correspondence should be tabulated to verify the data thus obtained. It is this uncertainty that has led the author to undertake the present study and tabulation of words as an addition to what has already been done.

## CHAPTER II

### AIM AND METHOD

#### AIM

The aim of the present study is (1) to supplement and expand the work that has been done in the various previous studies, (2) to show comparatively, by extensive tabulations, the number of words that are common in the writing vocabularies of persons in various callings, (3) to show the extent and range of vocabularies used by persons in certain different callings, (4) to point out the educational significance of these findings.

#### METHOD OF PROCEDURE

Thirty-seven hundred and twenty-three letters, written by adults engaged in over 35 different occupations and callings in the state of Iowa, were, with a few slight and unimportant exceptions<sup>1</sup>, collected by the public-school children in the seventh, eighth, and ninth grades of 22 towns and cities throughout the state. From these letters word-lists were made by the pupils according to printed directions sent out by the writer. The matter was first taken up with the superintendents. A letter to superintendents and teachers was then sent out, together with copies of directions for pupils. The following are copies of the letter and directions:

#### LETTER TO SUPERINTENDENTS AND TEACHERS

We are asking your kind assistance and coöperation in this study on spelling, to be made according to the "Directions for Pupils" sent you. Our purpose is to make a careful and extensive study of the words collected in this manner. We prefer to have the work done by any two grades above the fifth, including high school. Other things being equal, the seventh and eight grades would probably be the most suitable.

In order to simplify the work we have endeavored to make the directions as complete as possible. These directions have been worked out while the work was carried on in different grades of the Experimental School of the University and in the public schools of Iowa

<sup>1</sup> In a few high schools a class of Normal Training students collected and analyzed some of the letters. Some of the doctors' and bankers' letters were collected by the writer at Iowa City and analyzed at the University. These letters, however, had also come from various parts of the state.

City. We found most of the pupils very much interested and glad to do the work. The enthusiasm of the pupils, however, will depend largely on the attitude and spirit of the one in charge of the class. It is desirable that pupils use paper of uniform size.

In order to assure greater accuracy in the recording of the misspelled words, we ask that the pupils be drilled on the following list of words before they begin the work:

to	knew	whole	lose
too	seem	brake	principle
two	seam	break	principal
there	meet	ate	whether
their	meat	eight	weather
where	mail	seen	separate
wear	male	scene	been
here	which	piece	meant
hear	witch	peace	choose
deer	need	accept	coming
dear	knead	except	received
new	hole	loose	

Nearly all these words have been selected because of their frequency from the list of *One Thousand Most Common Words* by L. P. Ayres, and from the list of *One Hundred Spelling Demons* by W. F. Jones. Many of the words occur in both lists. Hence, according to the findings of these investigators they are both commonly used and frequently misspelled.

After beginning the work it should be carried through without delay. We should greatly desire to have your returns in by December first as the work here cannot be started before all returns are in.

The data may be returned by C. O. D. Express.

#### DIRECTIONS FOR PUPILS

The purpose of this study is to find out what words are used in letter writing so that we may be better able to tell what words we should first know how to spell.

*Collecting of Letters*—Each pupil is asked to collect from three to five letters, written in the state of Iowa by people over eighteen years of age. The letters collected by any one pupil should all be from people in the same occupation or profession, as domestic or house-keeper, farmer, drygoods merchant, druggist or drug clerk, teacher, minister, doctor, real estate man, milliner, etc. The letters should as far as possible be from different individuals in the same occupation or profession; that is, not all from the same person. If you have difficulty in getting letters from your parents ask some other relative or friend to help you. No doubt some classmate can get more letters than he needs and help you out. Letters that you are not

allowed to mark up or spoil can be copied word for word and the copy used for this purpose.

*Misspelled Words*—For misspelled words proceed as follows: Go over the letters and place a checkmark immediately over each word that is misspelled. If in doubt about the spelling consult a dictionary or write the doubtful words on a piece of paper and ask your teacher about their spelling. Homonyms misused should be marked as misspelled. To illustrate: If the word *pear* or *pare* is used in speaking of a *pair* of shoes it is misspelled. If the word *to* or *too* is used in speaking of *two* men it is misspelled. Capitalization can be disregarded.

When you have checked the misspelled words (if there are any) arrange them on a separate piece of paper in alphabetical order, in vertical columns. See any dictionary for alphabetical order. First write the word correctly and immediately following, on the same line write the word as it was misspelled in the letter. Example:

cabbage . . . . . cabage      enlarge . . . . . inlarge  
degrade . . . . . degrad      fought . . . . . faught

*Recording all words*—On a large sheet of paper (about 8x10 inches) record all the words in columns. Use the long side of the paper for the top and write the words in vertical columns. By doing this you will be able to get more columns on one page, and if you write small and distinctly you will be able to get all words beginning with the same letter in one column. There will be few words commencing with the letters *j*, *k*, *q*, *v*, *x*, *y*, *z*, and some others.

Proceed as follows: First go through all the letters and draw a firm line through each word commencing with the letter *a*. Immediately after each line is drawn write the word on the large sheet of paper. Begin in the upper left hand corner and form the first column down the left side of the paper (the end or short side of the sheet). In this way go through all the letters and record all words commencing with the letter *a*, then all words commencing with *b*, and so on through the alphabet. Keep your pencil well sharpened and write small and distinctly so that you will be able to get all the words on one or two sheets of paper. Both sides can be used. The names of the persons need not be recorded, but all other words in the headings and closings of the letters should be included. The single letters "a," "I," "O," and all figures (numbers not written out) need not be recorded. Write all abbreviations as they occur in the letters. Any different spelling is to be considered a different word (Excepting words pluralized by adding "s" only). for example: Such words as "have," "having;" "plan," "planned," "planning;" "refer," "referred" and "referring" should be recorded as different words. When the same word occurs two or more times do not rewrite it, but indicate its frequency by making a mark each time it occurs. If, for example, the word *very* occurs 14 times record it as follows: *very* 111 = 14. In counting these words remember that the first mark was made when

the word occurred the second time and that the word and marks must therefore be added together. Keep these marks close together so that they will not be in the way for the next column of words. The marks can also be written immediately above the word.

When all words beginning with "a" have been recorded start a new column with the words commencing with "b." In this way start a new column for each letter. By doing this instead of continuing the first column you can add any word that may have been overlooked the first time. It is well to draw a line between the columns. You will find that you can pick out each succeeding list of words more easily and more rapidly because two or more successive words and even entire lines will soon be marked out.

*Arranging words in alphabetical order*—You are now ready to rearrange and copy the words in ink as follows: On a new sheet of paper arrange the words in the same manner as before but in alphabetical order according to the first three letters of each word. You already have them arranged according to the first letter. After the first three letters the order can be disregarded. Example:

abate	acid	back	bear
accede	added	bail	bite

Note carefully the following: Before you begin to copy the words write (in ink) at the top of the first page the number of letters collected and the occupation or profession and sex of the persons who wrote and received the letters. Write this in the following manner:

Five letters by three doctors (two men and one woman). Three were written to a housekeeper (woman) and two written to a druggist (man). It may be, of course, that your letters are from a farmer or dentist written to a grocer and tailor. Then your heading would appear as follows: Four letters written by two farmers (men). One was written to a grocer (man) and three to a tailor (man). You may have different occupations but they can always be recorded in the same manner. You will need to write this heading only once (on the first page) and your columns of words can be started immediately under it. You can tell from your first page whether any of the columns of words will be too long for your paper. If so, use the short side up; that is, write the heading at the top the short way and form the columns of words under it, the long way. If none of the columns of words is too long always use the long side of the paper for the top.

When these lines have been written on the first page proceed as follows: Number your first list of words 1, 2, 3, 4, etc. with a lead pencil in the order that they are to be placed (alphabetically). Then copy them (in ink) on the new sheet according to the order that they are numbered, drawing a line through each word before you copy it. In this list the number of times a word occurs can be indicated by figures after the word. The word *very* would then be recorded as

follows: *very* 14. This list of words and the list of misspelled words will be sent by your teacher or superintendent to the University of Iowa and will be published later. It is necessary therefore that you do the work neatly. Write your name, grade and town at the bottom on one side of each sheet of paper and fasten all your papers together.

*Grouping*—If you have less than five letters analyzed in your list combine your work with that of some other pupil who has analyzed letters from people in the same calling or profession; that is, add the words of your two lists together and make a single list (in ink). It will not take long to do this after the words are alphabetically arranged. Each pupil can do half of this work or you can work together. This places a premium on getting five letters. If you can get as many as five letters in your own list you need not do this. If, however, one pupil has only three letters and another has four (from people in the same calling) combine the two into a list of seven. Where two lists are added together you need not write the heading again on this third combined list, but be sure to fasten the three lists together so that they will not come apart. Write both your names on this third list. The average pupil can do all the work in a few hours after the letters have been collected.

Always reread carefully that part of the directions which has to do only with the work which you are doing at the time. By doing this you will not become confused.

#### SUMMARY

All papers sent in to the University should be neatly written in ink and the following should be observed:

- (1) All misspelled words and how they were misspelled.
- (2) The number of letters analyzed in the list of words.
- (3) Occupation and sex of the persons who wrote the letters.
- (4) Occupation and sex of the persons who received the letters.
- (5) All words should be alphabetically arranged.
- (6) Where pupils have less than five letters two sets of papers should be combined into a single list.
- (7) Your name, grade, and town should be on each separate sheet.
- (8) All papers of each pupil should be fastened together.

#### CLASSIFICATION OF LETTERS

On pages 16 to 19, inclusive, are shown the directions sent to superintendents, teachers and pupils. The original word-lists made by the pupils were sent to the University where they were classified into four general and five special groups as shown below.

The words in each of these groups were first compiled into separate lists and these were then made into a single table.

## I Professional:

- 1 Librarians.
- 2 Trained nurses.
- 3 Editors, publishers, and reporters.
- 4 Clergymen.
- 5 Lawyers and judges.
- 6 Physicians and surgeons.
- 7 Dentists.
- 8 Druggists and pharmacists.
- 9 Engineers.
- 10 College presidents, officers, and professors.
- 11 Public school superintendents, principals, teachers.
- 12 Others.

## II Business:

- 1 Insurance companies and agents.
- 2 Real estate dealers.
- 3 General salesmen and sales agencies.
- 4 Transportation companies.
- 5 Manufacturing.
- 6 Mining.
- 7 Live stock and poultry raisers and dealers.
- 8 Grain dealers.
- 9 Clerical.
- 10 Photographers.
- 11 Others.

## III Domestic:

- 1 Homemakers and housekeepers.
- 2 Domestic servants and employees.
- 3 Nurses (untrained).

## IV Miscellaneous:

- 1 Various letters grouped together in the word lists compiled by pupils so that they could not be classified separately.
- 2 Such letters as could not well be classified under the headings named.

## V Personal (including friendship letters).

## VI Doctors.

## VIII Farmers

## VII Bankers.

## IX Automobile dealers.

## AIM AND METHOD OF GROUPING

The grouping under the general heads—professional, business, and domestic—is purely arbitrary. An attempt was made to follow the grouping of the United States Census Bureau but this was found unsuitable for the present purpose. It is evident that in the grouping adopted there are overlappings and misfits owing to the fact that different degrees of scholarship and intelligence are represented by persons in each of the different callings, and that the letters were written to persons in different callings and of varying degrees of intelligence and scholarship. A strict classification, therefore, on any single basis would be impracticable. Roughly speaking this general classification will show the range and frequency of words used by (1) those especially trained for the callings in which they are engaged, (2) those in semi-professional or semi-skilled, gainful occupations, which in general require no special preparation or training, (3) domestics and those not directly engaged in professional or gainful occupations.

## WORDS USED IN NINE DIFFERENT GROUPS

Table IX shows (1) the number of letters analyzed, (2) the number of different words, (3) the total number of running

TABLE IX

*Words Used in Nine Different Groups of Correspondence*

Calling	No. of letters analyzed	Total No. of running words	No. of different words	No. of words occurring once only
1 Professional	700	71,147	4,848	1,821
2 Business	900	84,459	3,256	664
3 Domestic	700	61,368	3,820	1,607
4 Miscellaneous	688	73,001	5,861	3,044
5 Personal <sup>1</sup>	149	14,778	1,980	1,008
6 Doctors	124	14,014	2,222	1,130
7 Bankers	164	13,614	1,915	922
8 Farmers	160	14,513	1,754	835
9 Automobile Dealers	138	14,290	1,881	775
Totals <sup>2</sup>	3,723	361,184	9,223	3,217

words, (4) the number of words used only once in each of the nine separate groups of correspondence. In this table the "business letters" do not include any letters from bankers or from automobile dealers. No doctors' letters are included in the professional group.

1. For words used exclusively in each of the five special groups see Table XI page 23.

2. For accuracy and reliability see page 28.

With the automobile dealers', bankers', and doctors' letters excluded the general business and professional groups can hardly be considered as being properly represented.

In Table X the letters written by automobile dealers and bankers have been included in the general group of business letters and those written by doctors, in the professional group.

TABLE X  
*Summary Classification of Correspondence*

Calling	No. of letters analyzed	Total No. of running words	No. of different words
1. Professional	824	85,161	5,368
2. Business	1,202	112,363	4,105
3. Domestic	700	61,368	3,820
4. Miscellaneous	688	73,001	5,861
5. Personal	149	14,778	1,980
6. Farmers	160	14,513	1,754
Totals	3,723	361,184	9,223

#### METHOD OF COUNTING DIFFERENT WORDS

In the list of different words every word of different spelling was considered a separate word, except where the word was pluralized by adding "s" only. Such words were recorded as singular. All proper nouns excepting days of the week, names of months, holidays, and nationalities were excluded. Abbreviations were recorded as they occurred in the letters. It may be said that names of persons and places of one's immediate neighborhood are highly important in a writing vocabulary. They cannot be classed as common words, however, because of their local nature.

#### INTERPRETATION OF TABLES IX AND X

In interpreting Tables IX and X it should be borne in mind that here are fewer letters analyzed, and consequently fewer words in the various columns of the special groups. This classification was not made in order to compare the special groups with the general groups, but rather that the special groups might be compared one with another. From table XI it will be seen that if more letters had been included in these groups there would have been more different words.

The 3217 words which occurred once only equal nearly nine per cent of the total number of running words and about 35 per cent of the total number of different words.

## NUMBER OF WORDS FOUND IN DIFFERENT GROUPS

Table X shows that in the general groups the miscellaneous list contains the greatest number of different words,—5681. The professional group, including the doctors' letters, is second with 5368 different words, and the business group, including the bankers' and automobile dealers' letters, is third in the list with 4105 different words. In the special groups, shown in table IX, the doctors' list is first in number of different words, the personal list second, and the bankers' list third. In thus comparing the lists as to the number of different words attention is again called to the fact that they were not obtained from an equal number of running words and that the groups are therefore only roughly comparable. This is true especially of the general groups.

In the original tabulation into groups the number of different words occurring in the first 700 letters analyzed was kept separately for each of the professional, business, and domestic groups. The number of different words occurring in each of these respective groups was 4848; 2523; and 3820. In these groups there were no doctors', bankers', or automobile dealers' letters. It is safe to say, however, that the business correspondence analyzed contained a much smaller number of different words in an equal number of letters. Even the addition of the 376 words used exclusively by bankers and automobile dealers, in 302 additional letters, makes only 2899 different words used in the business group, as against 4848 in the professional and 3820 in the domestic groups.

## WORDS PECULIAR TO DIFFERENT GROUPS

By tabulating the words separately in general and special groups it was possible to show the number of words that were used exclusively in each of the respective special groups.

TABLE XI  
*Words Used Exclusively in Special Vocations*

Callings	Total number	No. occurring only once	No. occurring 2 times	No. occurring 3 times
Doctors	247	210	21	16
Bankers	121	111	5	5
Farmers	106	97	5	4
Automobile dealers	155	132	9	14

The foregoing table shows, (1) the total number of words used exclusively in each of four special groups, (2) the number of these that occurred only once in each group, (3) the number that occurred two times in each group, (4) the number occurring three or more times in each group.\*

From this table it will be seen that in the letters analyzed there were relatively few words peculiar to any of the four callings, and that few of these words were used more than once.

### SPECIAL TABULATION

In tabulating the words in each of the five special groups the number of different words was recorded at approximately the end of the first 3000 running words and at the end of approximately each additional 1000. By thus tabulating separately the words used by individuals in distinctly different callings it was thought possible to show more definitely the difference in the range of words used by persons in (1) professional and skilled callings and trades, (2) by those in semi-professional and semi-skilled callings and trades, (3) by those in non-professional and non-skilled occupations. The purpose had been to show comparatively, for the different classes, the decreasing number of additional new words used in each succeeding block or unit of approximately 1000 running words. It is evident that such a comparison as to range and frequency should be made only on a basis of an approximately equal number of total words used.

### METHOD OF RECORDING WORDS IN SUCCESSIVE UNITS

Table XII shows the number of different words found in each of twelve additional successive units of running words that were used by five different groups of correspondents. The

\* Doctors' words,—abandon 2, abdomen 2, analysis 20, assertion 2, atropin 3, bacilli 4, bacterial 2, bullet 4, capsules 2, chiropractor 3, chlorine 2, chlorinator 2, chronic 4, clinical 10, effluent 3, filtration 2, genealogy 2, hopeful 2, inception 2, intake 2, iodide 6, laboratories 2, oatmeal 4, oedema 2, organism 3, pathogenic 4, pollution 4, promoted 2, pumped 2, purification 7, retina 2, secreting 2, sentiment 2, sterilize 2, surgical 4, tubercle 6, valor 2.

Bankers' words,—abandonment 2, borrower 2, cleared 2, collateral 8, declared 2, destruction 4, endorsed 3, overdraft 3, receivable 2, robber 3.

Farmers' words,—about 4, hopping 2, laughing 2, oiler 3, petticoat 2, plume 4, prison 2, racing 5, reasonor 2.

Automobile dealers' words,—batteries 12, blow-out 4, brushes 14, chamberlain 7, clincher 3, drudgery 2, folding 2, helpfulness 3, hub 4, insulation 2, lubrication 2, molded 2, pennant 2, pilot 5, regulated 4, skid 3, softening 3, sorrel 2, speeded 4, starter 5, surrounded 4, training 2.

TABLE XII  
*Special Writing Vocabularies Revealed by Successive Units of Running Words*

Units	3d	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	Totals
1 Personal Letters	2897	980	965	977	1011	980	1010	1002	988	1007	980	990	991	14778
	746	172	128	154	235	59	67	86	65	91	78	49	50	1980
2 Farmers	2980	949	960	950	969	982	964	947	957	973	967	956	959	14513
	647	110	82	90	112	80	75	111	109	90	73	67	81	1754
3 Automobile dealers	2856	964	962	937	951	947	960	942	939	971	967	943	951	14290
	1057	80	70	104	77	102	44	68	72	62	47	39	59	1881
4 Doctors	2803	932	953	927	943	930	922	929	929	954	942	923	927	14014
	1093	141	144	134	101	104	80	60	103	80	70	46	66	2222
5 Bankers	2700	909	932	930	881	901	923	910	896	916	907	919	890	13614
	977	113	90	68	160	105	72	40	64	70	70	50	39	1915
Total Running words	14236	4734	4772	4721	4755	4740	4779	4730	4709	4821	4763	4731	4718	71209

larger of the successive pairs of numbers represent the additional running words and the smaller, the additional new words.

In counting out the running words for the successive units in the different groups all words in each of the letters were counted. The letters were then sorted and grouped so as to make as nearly as possible 1000 words per unit. This accounts for the fact that the number of running words in the respective units shown in the table is only approximately 1000. It will be seen that the total number of words occurring in the first three units were recorded collectively at the end of the third unit.

#### WHAT THE TABLE SHOWS

From Table XII it will be seen that in the first 3000 running words (approximately) the doctors' list shows 1093 different words; that of the automobile dealer, 1057; and that of bankers, 977; while the personal list shows only 746 different words, and the farmers' list only 674. This initial difference no doubt is due partly to a more common use of technical words in the specialized callings, in addition to common words. Aside from this the table reveals no tendencies from which reliable conclusions can be drawn. It will be seen that the number of new words introduced in each succeeding unit is still relatively high in the fourteenth and fifteenth thousand running words, in all the groups. If it had been possible to continue this tabulation with additional letters, new words would doubtless have occurred through many more thousands of running words. It is evident, however, that such words as did not occur in the first 14,000 or 15,000 running words are not likely to occur often thereafter. Occasional letters seem always to bring additional new words. But these words, it may be said, are uncommon and become less and less frequent in their occurrence. This is also shown in part by the large number of single occurrences shown in Table IX, page 21.

#### DISTRIBUTION AND NON-LOCAL CHARACTER

The 22 towns and cities from which the original data were supplied represent practically every part of the state. In order to gain some idea of the probable distribution of letters collected in any one town or city a list was made of the post office

addresses from which 100 letters had come. These letters were collected by a group of seventh-grade children of Iowa City. Nothing was said to the children as to where to get the letters, aside from what was given in the general information in the printed directions. The 100 letters were found to have come from the following 39 places:

1 Ames	14 Davenport	27 Newton
2 Atlantic	15 Des Moines	28 Oelwein
3 Bentley	16 Dexter	29 Rockford
4 Burlington	17 Elkader	30 Shellsburg
5 Cain	18 Fairfield	31 Shell Rock
6 Carroll	19 Greenfield	32 Sheldon
7 Cedar Falls	20 Independence	33 Sigourney
8 Cedar Rapids	21 Lansing	34 Storm Lake
9 Charter Oak	22 Lisbon	35 Stanton
10 Clinton	23 Lewis	36 Toledo
11 Columbus City	24 Marion	37 Trayer
12 Council Bluffs	25 Mt. Pleasant	38 Waterloo
13 Correctionville	26 Mt. Vernon	39 Williamsburg

In this list of 100 letters from the above named towns and cities there were personal and friendship letters and letters from persons in each of the following professions and callings:

Jewelers	Farmers	Adjutant General
Bankers	Housekeepers	Merchants
Manufacturers	School superintendents	Librarians
	College students	

If we may judge from this the distribution of the other 3623 letters it seems unlikely that any considerable portion of the state has not been represented.

#### REPRESENTATIVE CHARACTER OF WORDS SELECTED

The question naturally arises whether the final word list is adequately representative of persons in the various callings and occupations, and of the different educational levels throughout the country. Since the 3723 letters were collected from the parents and friends of the seventh, eighth, and ninth grade children of 22 different towns and cities, instead of being collected by one or a few individuals from persons representing a limited number of interests, it is reasonable to expect that the final word list represents a sufficiently large number of different occupations and callings, and a wide range of educational levels. The different callings and educational levels represented are shown on page 20.

## SCORING AND TABULATING

When the scope and magnitude of the work is considered and the fact that the original tabulations were made by the pupils of the seventh, eighth, and ninth grades of 22 different school systems, it becomes evident that absolute accuracy cannot be claimed for the recording of all words. Experience seems to show, however, that work of this nature done by children is as reliable as when done by adults. It will be seen also from the nature of the work that an occasional mistake on the part of pupils in recording words would in no way group so as to become cumulative, or tend in a given direction. Such mistakes, therefore, would result in a negligible error in the final word list. Every reasonable effort has been made to obtain the greatest possible degree of accuracy consistent with the nature of the work. The schools supplying the original data were selected with care. The matter was first taken up with the superintendent. After this the teachers were consulted and only those who were thought to be in position to have the work done well were asked to have it carried out by one or more classes. The teachers and pupils were then supplied with printed directions. Copies of these directions are shown on pages 15 to 19, inclusive. These directions were carefully worked out beforehand.

On the whole the returns of the work done by the pupils were very satisfactory. In every case where there was evidence of negligence or possible mistakes the entire list was thrown out. The words were then classified into general and special groups and compiled into single lists. This part of the work was done at the University with the help of four adult persons, selected because of their fitness for the work in question as shown by previous experience in work of a similar character. All calculations were gone over two or more times, and there is every reason to believe that the final totals are, if not absolutely correct, sufficiently accurate for all practical purposes.

No record was kept of the number of individuals who had written the 3723 letters collected. Pupils were asked to collect the letters as far as possible from different individuals. In view of this and the fact that a given pupil did not collect more than from three to five letters, it is improbable that enough letters were written by any one person to bias the final word list.

**SUMMARY OF METHOD EMPLOYED**

Thirty-seven hundred and twenty-three letters were collected and analyzed by the public-school children of 22 towns and cities in the state of Iowa, according to printed directions sent to teachers and pupils. The letters were written by adults engaged in more than 35 different occupations and callings throughout the state. These letters were classified into general and special groups and word lists were made of the vocabularies. Every word of different spelling was counted a different word, except where the word was pluralized by adding "s" only. Such words were recorded as singular. All proper nouns, excepting days of weeks, names of months, holidays, and nationalities were excluded.

**FINDINGS**

A total of 9223 different words were found in 361,184 running words. The first 14 words with their repetitions were found to constitute one-fourth of the total number of running words tabulated. Seventy-seven words with their repetitions comprised one-half of the total number of running words, and 442 words comprised three-fourths of the total number.

**SELECTION OF WORDS FOR A FINAL LIST**

The final list of words was made up as follows: All words that occurred in three or more of the six groups shown in the summary table number X, page 22, with a total frequency of five or more were included in the list. By this method of selection 3087 words were obtained. This means that all words occurring with a frequency of one in 116 running words were selected, or about 862 words per 100,000 running words. These words, arranged in descending order of their frequency of occurrence, are given on pages 30 to 47, inclusive.

## CHAPTER III

### THE WORD LIST

-and	11893	6	would	1101	6	order	573	6
-the	10878	6	about	1079	6	glad	568	6
to	9965	6	day	1057	6	want	558	6
you	8090	6	know	1043	6	over	555	6
-of	7339	6	there	1032	6	new	555	6
-in	6533	6	they	998	6	city	555	6
your	5269	6	now	998	6	sir	542	6
-for	5122	6	an	956	6	after	541	6
-we	4705	6	out	954	6	could	527	6
-is	4650	6	truly	950	6	hear	526	6
that	4622	6	some	947	6	made	523	6
-it	4214	6	here	937	6	his	514	6
-have	3996	6	just	911	6	same	513	6
-are	3885	6	year	868	6	only	506	6
will	3486	6	come	860	6	then	504	6
-be	3406	6	well	850	6	please	501	6
-as	3032	6	up	849	6	should	495	6
-this	2574	6	when	801	6	friend	481	6
-if	2521	6	make	792	6	little	478	6
-on	2515	6	them	771	6	take	473	6
-at	2477	6	she	759	6	say	472	6
-all	2269	5	see	748	6	two	472	6
-not	2050	6	much	734	6	soon	467	6
-but	1967	6	don't	714	6	Mr.	459	6
-with	1958	6	like	714	6	let	459	6
-dear	1874	6	how	701	6	find	459	6
-am	1828	6	more	700	6	these	455	6
-very	1770	6	her	677	6	again	452	6
-from	1782	6	week	677	5	best	450	6
-so	1642	6	what	675	6	better	446	6
-me	1605	6	school	667	6	down	437	6
-which	1582	6	no	660	6	many	437	6
-one	1538	6	may	658	6	their	433	6
was	1510	6	last	653	6	first	421	6
-can	1490	6	also	647	6	car	420	6
-had	1445	6	write	630	6	wish	417	6
-been	1404	6	going	629	6	next	416	6
-our	1395	6	send	129	6	back	413	6
time	1379	6	go	627	6	name	399	6
-good	1371	6	home	620	6	must	397	6
get	1324	6	think	619	6	than	392	6
has	1311	6	give	608	6	state	389	6
-do	1309	6	every	607	6	who	384	6
my	1273	6	were	607	6	few	384	6
-or	1235	6	work	601	6	too	382	6
-he	1228	6	other	601	6	company	378	6
-any	1215	6	got	598	6	card	364	6
letter	1173	6	before	595	6	night	362	6
-us	1167	6	him	595	6	thing	358	6
-by	1158	6	did	575	6	matter	358	6

each	358 6	man	260 6	country	203 6
price	357 6	possible	257 6	heard	203 6
long	350 6	great	257 6	picture	202 6
tell	347 6	keep	257 6	market	201 5
today	347 6	bank	256 6	Christmas	200 6
fine	345 6	amount	254 6	received	200 3
getting	345 6	morning	254 6	part	199 6
its	344 6	believe	253 6	meeting	199 6
sent	339 6	lot	252 6	feel	198 6
use	336 6	pay	252 6	five	197 1
place	333 6	upon	251 6	report	195 6
note	331 6	said	251 6	list	194 6
came	331 6	ask	249 6	large	194 6
ever	327 6	course	249 6	herewith	194 4
ago	324 6	evening	246 6	try	193 6
right	320 6	three	246 5	receive	192 6
sure	320 6	seem	246 6	off	192 6
money	318 6	number	245 6	sincerely	191 6
month	318 6	during	245 6	haven't	191 6
enclosed	317 6	since	244 6	guess	187 6
most	315 6	can't	242 6	room	187 6
girl	312 6	need	241 6	ours	186 5
coming	308 6	land	241 6	farm	185 6
under	308 6	never	241 6	teacher	185 6
house	307 6	always	239 6	might	185 6
such	306 6	per	240 5	bad	185 6
look	306 6	regard	239 6	hard	185 6
kind	303 6	service	238 6	four	184 6
because	301 6	doing	235 6	receipt	183 5
book	301 6	until	235 6	through	182 6
return	300 6	pleased	235 6	condition	182 6
way	299 6	put	234 6	into	182 6
once	297 6	answer	233 6	mean	180 5
went	297 6	quite	229 6	thanking	178 6
present	294 6	people	229 6	sending	178 6
having	292 6	both	228 6	cannot	178 6
didn't	291 6	thank	223 6	yesterday	175 6
mail	288 6	pretty	223 6	men	174 6
close	287 6	own	223 6	door	174 5
interest	285 6	town	220 6	given	173 5
love	282 6	anything	220 6	club	173 5
busv	281 6	check	219 6	deal	171 6
paper	278 6	office	219 6	certainly	170 6
able	277 6	cold	219 6	grade	170 5
account	276 6	while	218 6	early	170 6
high	273 6	care	217 6	without	167 6
date	273 6	another	215 6	fact	168 6
nice	273 6	shall	215 6	dollar	166 6
done	273 6	along	214 6	left	166 6
boy	270 6	making	212 6	class	165 6
being	264 6	old	211 4	hoping	165 6
call	263 6	does	211 6	replv	165 6
mother	262 6	attention	210 6	business	165 6
hand	262 6	case	209 6	almost	165 6
help	262 6	where	209 6	enough	164 5
yet	262 6	January	209 5	those	162 6
favor	261 6	thought	208 6	appreciate	162 6
kindly	261 6	show	206 6	weather	161 6
big	260 6	remain	204 5	due	161 6

December	161	6	water	135	6	either	113	6
college	161	6	gave	135	6	saw	112	6
afternoon	160	6	advise	134	4	rest	112	6
folk	160	6	sick	134	6	really	112	6
far	160	6	sorry	133	6	express	112	5
cost	159	6	end	133	6	aunt	111	6
around	159	6	agent	131	5	away	111	6
gone	158	6	church	131	6	gentlemen	111	3
November	157	6	trust	130	4	June	111	6
charge	157	6	stay	130	6	satisfactory	111	6
address	157	6	further	130	6	spring	111	6
ready	156	6	general	129	5	whether	110	6
corn	155	6	fall	129	6	payment	110	4
suppose	154	6	summer	129	6	April	110	5
set	154	6	past	128	6	even	110	6
cent	154	6	winter	129	6	against	109	6
found	154	6	family	128	6	called	109	6
above	154	6	something	127	6	run	109	6
bill	153	6	material	127	5	though	108	6
still	152	6	game	127	6	short	108	6
meet	152	6	Mrs.	127	6	happy	108	6
change	152	6	bed	125	6	six	107	6
necessary	152	5	board	125	6	used	107	6
hold	151	6	party	125	6	written	107	6
however	151	6	request	124	4	statement	106	4
Saturday	151	6	children	124	6	live	106	6
buy	150	6	road	124	6	life	106	6
train	149	6	bring	124	6	mind	106	6
near	149	6	anyone	123	5	isn't	106	5
writing	149	6	small	123	6	October	106	6
stock	148	6	county	123	5	association	106	6
application	147	6	won't	122	6	already	105	6
Monday	146	6	interested	122	5	perhaps	105	6
real	146	6	baby	122	6	anxious	105	6
sample	146	6	leave	121	6	credit	105	5
season	146	5	desire	120	5	dinner	105	6
enclosing	145	5	learn	120	5	father	104	6
told	144	6	box	120	6	machine	104	6
chance	144	6	nearly	119	6	acre	103	5
half	144	6	record	119	4	alone	103	6
information	143	5	yourself	117	6	building	103	6
news	143	6	wishes	117	6	light	103	6
customer	142	4	wanted	117	6	talk	103	6
enclose	142	5	asked	117	6	value	102	5
Sunday	142	6	member	117	6	committee	102	6
sell	141	6	insurance	117	5	forward	102	6
fair	141	6	sold	116	5	looking	101	6
brother	141	6	wrote	115	6	everything	101	6
blank	140	6	trouble	115	6	term	101	6
plan	139	6	took	115	6	awful	99	6
why	139	6	together	115	6	future	99	6
nothing	139	6	pleasure	115	6	else	99	6
shipment	139	4	several	115	6	visit	99	6
Friday	138	6	doctor	115	6	west	99	6
July	138	6	expense	115	6	started	99	6
read	138	6	taken	114	6	subject	99	6
special	138	5	cover	114	6	ten	98	4
I'm	137	6	sister	114	6	notice	98	6
respectfully	136	5	balance	113	6	feeling	98	6

different	98	6	reference	84	6	taking	74	6
delivery	98	4	cut	84	6	student	73	5
fill	97	6	coat	84	6	sign	73	6
job	97	5	free	84	6	Feb.	73	6
seen	97	6	fire	84	6	experience	73	5
supply	97	4	bought	84	6	cash	73	5
therefore	96	4	open	83	6	careful	73	6
trusting	96	4	play	83	6	attend	73	5
I'll	96	6	profit	83	6	net	72	6
doubt	96	5	program	83	6	post	72	5
question	95	6	handle	83	5	freight	72	5
extra	95	6	loan	83	3	hour	72	5
opportunity	95	5	delay	83	6	decided	72	6
enjoy	95	6	white	83	6	suggest	71	5
regular	94	6	word	83	4	shipped	71	5
advantage	94	6	regarding	82	6	examination	71	5
following	93	6	dealer	82	4	hotel	71	5
president	93	6	prompt	82	4	follow	71	6
least	93	6	advance	81	5	personal	71	5
success	93	6	policy	81	4	older	71	6
remember	92	6	kept	81	6	although	71	6
fellow	92	5	usual	81	6	accept	70	6
farmer	92	6	whom	81	6	beginning	70	6
manager	92	3	mortgage	80	4	benefit	70	5
mamma	92	6	working	80	6	probably	70	6
later	92	6	tomorrow	80	5	yard	70	5
beg	91	5	effort	80	6	pleasant	70	6
position	91	6	law	80	6	held	70	6
fur	91	5	form	80	6	error	70	5
late	91	6	lost	79	6	hot	70	6
till	91	6	district	79	5	circular	70	4
young	91	6	election	79	4	copy	70	3
subscription	91	5	Thursday	79	6	cousin	70	6
rate	91	6	understand	79	6	register	70	5
reason	91	5	secure	79	5	Tuesday	69	6
section	91	4	size	79	6	couple	69	6
street	91	5	September	78	4	low	69	5
August	89	6	begin	77	5	idea	69	6
second	89	6	known	77	6	page	69	4
hundred	89	6	minute	77	5	May	69	6
worth	88	5	catalog	77	3	auto	69	6
result	88	5	trade	77	5	article	69	6
hardly	88	6	selling	77	5	beside	68	5
between	87	6	except	76	6	miss	68	6
less	87	6	forget	76	6	north	68	6
milk	87	5	among	76	6	saving	67	6
certificate	87	4	promptly	76	5	drop	67	6
rain	87	6	property	76	6	consider	67	4
contract	86	4	o'clock	75	6	mailed	67	5
furnish	86	5	issue	75	5	fully	67	6
direct	85	4	commission	75	4	public	67	4
proposition	85	5	couldn't	75	6	answering	67	6
national	85	4	trip	75	6	Miss	67	4
myself	85	6	side	75	6	add	66	6
start	85	6	coal	75	6	afraid	66	5
especially	85	5	knew	74	6	all right	66	6
fee	85	4	March	74	6	point	66	6
unless	85	6	demand	74	5	head	66	6
wait	84	6	snow	74	6	draft	66	4

excuse	66 5	arrange	58 5	count	53 5
tonight	66 5	quality	58 5	pair	53 5
tree	66 6	finished	58 6	neighbor	53 6
sooner	66 6	item	58 3	birthday	53 6
stand	66 6	local	58 5	below	53 6
south	65 4	longer	58 6	agriculture	53 5
reach	65 6	complete	58 5	abstract	52 4
contest	65 5	dress	58 6	oblige	52 5
horse	65 5	eight	58 6	fun	52 6
gift	65 5	trying	58 6	heavy	52 5
brought	65 6	world	58 6	married	52 6
automobile	65 4	recently	58 5	cause	52 5
organization	64 4	serve	58 5	correct	52 6
ought	64 6	study	58 5	doesn't	52 6
ball	64 6	teaching	57 5	replying	52 4
uncle	64 6	superintendent	57 4	stop	52 6
store	64 6	suit	57 5	successful	52 4
teach	63 4	welcome	57 5	style	51 5
rent	63 6	twenty	57 5	within	51 4
realize	63 6	entire	57 5	everybody	51 6
war	63 6	continue	57 5	direction	51 5
chicken	63 6	kid	57 6	dandy	51 6
finish	63 6	hog	57 6	changed	51 6
piece	63 6	particular	57 5	magazine	51 4
owner	63 4	paint	57 4	lovely	51 6
ordered	63 4	campaign	56 3	instruction	51 4
mine	63 6	met	56 6	instead	51 5
asking	63 5	person	56 6	impossible	51 5
cashier	62 5	considerable	56 5	gold	51 5
judge	62 5	covering	56 5	quarter	51 6
certain	62 6	fell	56 6	prize	51 4
clear	62 5	figure	56 5	paying	51 6
factory	62 5	whole	56 6	package	51 5
vacation	62 5	women	55 5	Nov.	51 4
returned	61 6	waiting	55 6	move	51 5
willing	61 4	unable	55 5	color	51 6
entirely	61 6	ship	55 4	black	51 6
health	61 6	secretary	55 6	noon	50 6
purpose	61 4	thousand	55 6	block	50 6
Oct.	61 6	clean	55 6	lonesome	50 5
blue	60 6	lose	55 5	allow	50 4
carry	60 6	pupil	55 5	decide	50 6
immediately	60 4	carefully	55 6	walk	50 6
important	60 6	agency	55 4	test	50 6
easy	60 6	age	55 6	third	50 5
manufacture	60 4	anyway	54 6	aid	49 5
eat	60 6	bit	54 6	pass	49 6
excellent	60 4	plate	54 4	placed	49 4
sale	60 5	firm	54 5	possibly	49 4
sometime	60 6	hello	54 6	prepared	49 5
yes	59 6	Jan.	54 6	quit	49 6
university	59 6	file	54 4	quote	49 3
death	59 6	envelope	54 6	join	49 6
copies	59 5	exchange	54 4	madam	49 6
plant	59 4	recent	54 4	democrat	49 3
music	59 5	signed	53 5	description	49 5
awaiting	59 4	reading	53 6	difference	49 6
annual	59 4	wonder	53 6	effect	49 5
according	59 5	Wednesday	53 6	fifteen	49 4

tired	49	6	felt	45	6	gallon	41	6
poor	49	6	turn	45	6	handling	41	3
using	49	5	view	45	6	history	41	4
stayed	49	6	win	45	4	I've	41	5
thinking	48	6	red	45	5	extend	41	4
table	48	4	repair	45	4	union	41	4
support	48	5	satisfied	45	5	whatever	41	5
suitable	48	4	sheet	45	5	refer	41	3
wear	48	6	speak	45	6	satisfaction	41	5
field	48	6	splendid	45	5	saying	41	5
fat	48	6	thirty	44	5	scout	41	4
eye	48	6	seven	44	6	surprise	41	5
education	48	4	watch	44	6	system	41	4
Dr.	48	6	volume	44	5	silk	40	5
discount	48	6	top	44	6	expected	40	5
daily	48	5	Dec.	44	6	shipping	40	4
concerning	48	4	co-operation	44	4	February	40	5
increased	48	6	chairman	44	5	various	40	5
greatly	48	4	instant	44	3	client	40	3
permit	48	5	increase	44	6	mistake	40	6
oil	48	6	grandma	44	5	largest	40	5
buying	48	5	prove	44	5	addition	40	4
advertising	47	4	plenty	44	5	inquiry	40	5
began	47	6	art	44	5	graduate	40	5
body	47	6	acknowledge	43	5	properly	40	4
premium	47	4	act	43	4	prepare	40	5
promise	47	6	bear	43	5	pound	40	5
improvement	47	5	prospect	43	5	added	40	4
lesson	47	5	force	43	4	confidence	39	6
cattle	47	5	imagine	43	6	duty	39	5
convenience	47	4	library	43	5	earliest	39	4
director	47	4	consideration	43	5	arrangement	39	5
require	46	4	cordially	43	5	average	39	5
representative	46	5	crop	43	4	basis	39	4
remittance	46	4	east	43	6	registration	39	4
Xmas	46	6	feet	43	6	remit	39	5
warm	46	6	vote	43	5	requested	39	5
tire	46	5	wonderful	43	5	perfectly	39	5
enjoyed	46	5	speaker	43	6	proceed	39	4
died	46	5	territory	43	4	quick	39	6
mighty	46	5	spend	42	6	lecture	39	6
looked	46	6	separate	42	6	maybe	39	4
living	46	6	shown	42	3	nicely	39	6
happen	46	5	rule	42	5	obligation	39	5
opinion	46	4	window	42	5	wasn't	39	6
beat	46	6	easily	42	5	wife	39	5
absolutely	45	4	choice	42	4	ladies	39	5
advanced	45	5	method	42	3	fix	39	6
arrived	45	6	manner	42	4	fourth	39	6
none	45	5	lately	42	6	gas	39	6
offered	45	4	institution	42	4	gentleman	39	6
period	45	4	presence	42	4	grand	39	5
purchase	45	4	ourselves	42	5	patient	38	5
highest	45	4	Oh	42	5	practice	38	6
lovingly	43	6	collection	42	4	acquainted	38	6
character	45	4	arm	42	5	additional	38	4
child	45	6	apple	41	6	build	38	5
deed	45	4	power	41	4	council	38	4
face	45	6	principal	41	5	holiday	38	5

entitled	38 4	says	35 5	attorney	33 4
filled	38 4	shape	35 6	become	33 5
habit	38 4	stamp	35 6	bulletin	33 4
spent	38 5	planning	35 6	twice	33 6
meal	38 6	wheat	35 5	wished	33 5
moment	38 5	proper	35 5	valued	32 4
papa	38 5	convenient	35 4	trial	32 5
operation	37 5	dead	35 5	bet	32 5
agree	37 4	enter	35 4	literature	32 3
ahead	37 6	eve	35 5	mark	32 6
assure	37 5	explain	35 5	missed	32 5
awfully	37 5	fail	35 5	model	32 4
buyer	37 3	favorable	35 6	officer	32 5
capital	37 4	equipped	34 5	raise	32 6
ride	37 5	fifty	34 6	recommend	32 4
son	37 5	forty	34 6	safe	32 5
standard	37 5	growing	34 6	simply	32 5
supper	37 6	vary	34 6	slip	32 5
personally	37 4	nurse	34 5	slow	32 6
pick	37 6	whose	34 3	storm	32 6
equipment	37 3	owe	34 4	sufficient	32 5
fight	37 6	wishing	34 5	plain	32 4
fit	37 6	parties	34 4	product	32 5
grain	37 4	postal	34 6	purchased	32 3
hospital	37 4	prefer	34 4	etc.	32 6
immediate	37 4	action	34 3	extension	32 4
lady	37 6	appreciated	34 5	front	32 6
connection	37 4	clerk	34 3	furnished	32 4
cow	37 5	deposit	34 4	hadn't	32 6
curtain	37 6	dozen	34 4	catch	32 5
detail	37 5	drive	34 6	clothe	32 6
egg	37 6	efficient	34 3	continued	32 4
ticket	37 3	railroad	34 5	length	31 5
wouldn't	36 5	regret	34 5	mentioned	31 4
title	36 5	share	34 6	obtain	31 3
collect	36 5	seemed	34 5	central	31 5
delivered	36 5	surprised	34 6	cheap	31 5
depend	36 6	thanksgiving	34 5	community	31 4
efficiency	36 3	higher	34 5	duplicate	31 4
include	36 3	judgment	34 6	garage	31 5
invoice	36 5	hurry	33 6	hair	31 5
knowledge	36 5	classes	33 5	parcel	31 5
farming	36 5	commercial	33 6	perfect	31 5
forgot	36 5	common	33 4	prevent	31 5
forgotten	36 6	cream	33 5	prior	31 3
printed	36 4	definite	33 4	Prof. -	31 4
proof	36 5	denot	33 6	running	31 5
quiet	36 6	enjoying	33 6	selection	31 5
rained	36 6	fairly	33 6	true	31 5
supplies	36 4	flower	33 6	assuring	31 5
accordance	36 3	foot	33 6	useful	31 5
across	36 5	putting	33 5	answered	31 5
advice	36 5	reached	33 5	circumstances	31 5
branch	36 5	latter	33 6	assist	31 5
loss	36 5	liked	33 5	banking	31 3
lumber	36 5	luck	33 6	fund	30 4
mailing	36 4	moved	33 6	gain	30 5
load	35 4	nature	33 4	ha	30 4
nine	35 5	arrive	33 5	leader	30 4

notify	30 4	hate	28 6	lay	27 5
occasion	30 5	improved	28 4	leaving	27 6
official	30 5	issued	28 3	liberal	27 4
original	30 4	latest	23 4	ma-	27 4
otherwise	30 5	located	23 5	middle	27 4
addressed	30 5	mention	28 5	oats	27 4
anywhere	30 5	normal	28 4	informed	27 3
appear	30 4	offering	28 3	invitation	27 5
available	30 3	fast	28 4	kitchen	27 5
band	30 6	weight	28 5	lake	27 5
twelve	30 5	financial	28 3	active	27 5
waist	30 5	piano	28 5	barn	27 6
wire	30 3	practical	28 5	basket	27 4
profession	30 6	private	28 5	booklet	27 4
cedar	30 3	cook	28 6	range	26 4
crowd	30 5	problem	28 4	referring	26 3
closed	30 4	cool	28 5	relative	26 5
hay	30 5	butter	28 6	represented	26 3
himself	30 4	correspondence	28 4	required	26 3
interesting	30 5	reasonable	28 3	returning	26 4
journal	30 6	court	28 4	rich	26 5
republican	30 4	referred	28 3	select	26 4
sand	30 4	registered	28 3	self	26 6
sleep	30 5	danger	28 5	single	26 6
sort	30 4	sanitary	28 3	situation	26 5
cleaned	29 6	promised	28 6	advised	26 3
covered	29 4	saver	23 3	aim	26 5
dark	29 5	shoe	28 6	air	26 4
desired	29 4	semester	28 4	allowed	26 4
develop	29 4	sound	28 5	appeal	26 5
receiving	29 4	treatment	28 5	army	26 3
securing	29 3	usually	28 6	bluff	26 4
sit	29 6	talking	27 5	hurt	26 6
hill	29 4	terrible	27 5	importance	26 4
inst.	29 3	thus	27 5	inches	26 6
itself	29 5	total	27 4	keeping	26 6
labor	29 4	touch	27 5	liberty	26 5
larger	29 5	wagon	27 5	lower	26 5
brown	29 5	wash	27 6	lunch	26 4
presume	29 4	we'll	27 6	former	26 4
provide	29 3	passed	27 5	grove	26 5
yearly	29 3	pattern	27 4	bunch	26 6
exercised	29 4	calling	27 4	candidate	26 5
failed	29 3	carrier	27 3	carried	26 5
fear	29 6	reader	27 3	outside	26 4
forwarded	29 4	round	27 4	phone	26 5
ground	29 6	rush	27 5	preparation	26 5
opening	29 3	settle	27 5	publication	26 5
ability	29 4	English	27 5	sixty	26 4
amounting	29 3	feed	27 5	skirt	26 5
badly	29 6	floor	27 6	understanding	26 4
square	29 5	football	27 6	wind	26 5
submit	29 5	funny	27 6	wondering	26 5
thoroughly	29 4	gladly	27 4	chair	26 5
ton	29 5	guaranteed	27 4	chautauqua	26 4
wet	29 5	content	27 5	cloth	26 5
behind	28 5	charged	27 3	communication	26 4
worked	28 5	contain	27 4	concern	26 4
hat	23 6	design	27 4	daughter	26 5

center	25	3	holding	24	4	appointed	22	4
cross	25	5	I'd.	24	6	assigned	22	3
degree	25	6	indicate	24	3	awhile	22	6
difficulty	25	4	intended	24	5	became	22	4
exception	25	6	iron	24	5	circulation	22	3
expensive	25	4	crazy	24	6	choose	22	4
film	25	4	distribution	24	3	coach	22	4
greeting	25	5	checking	23	3	conference	22	4
pig	25	4	cities	23	3	dealing	22	4
bother	25	5	considered	23	5	dog	22	5
bottom	25	6	convention	23	3	including	22	4
breakfast	25	6	cutting	23	5	increasing	22	4
bushel	25	5	inclosed	23	5	kindness	22	4
river	25	5	intend	23	4	learned	22	4
affair	25	5	limited	23	4	locate	22	5
bog	25	4	merchandise	23	4	washing	22	5
banker	25	3	nation	23	6	measure	22	5
blow	25	4	needed	23	5	merit	22	3
co-operative	25	3	newspaper	23	5	neglected	22	5
joy	25	5	obliged	23	5	broke	22	5
lieutenant	25	4	bureau	23	4	training	22	3
mill	25	4	calf	23	4	painting	22	5
million	25	5	pen	23	5	relation	22	5
monthly	25	5	played	23	5	senior	22	5
movement	25	4	print	23	5	exact	22	5
stamped	25	4	publisher	23	4	extent	22	3
stuff	25	5	published	23	3	glass	22	4
sun	25	4	somewhat	23	6	worse	22	6
united	25	6	sore	23	6	final	21	5
wall	25	4	spare	23	6	fresh	21	5
woman	25	4	spell	23	5	handkerchief	21	3
stated	24	3	step	23	5	garden	21	6
station	24	4	straight	23	4	reduction	21	4
merely	24	3	talked	23	5	regularly	21	3
mostly	24	5	telephone	23	5	requirement	21	3
advertisement	24	5	urge	23	3	ring	21	5
air	26	2	worry	23	5	rose	21	5
advising	24	3	writer	23	4	seat	21	4
apply	24	5	you'd	23	3	garment	21	6
rapid	24	4	reliable	23	3	shop	21	3
raw	24	3	represent	23	3	sight	21	4
respect	24	3	science	23	4	taxes	21	3
exactly	24	5	seed	23	5	wide	21	5
exhibit	24	4	Sept.	23	6	payable	21	4
feature	24	4	series	23	3	placing	21	3
fever	24	5	serious	23	5	previous	21	5
filling	24	3	settlement	23	4	produce	21	3
fixed	24	6	foundation	23	4	provided	21	3
food	24	4	fraternally	23	3	quickly	21	5
furniture	24	5	furnace	23	4	cake	21	5
grateful	24	4	gotten	23	5	caused	21	5
green	24	5	guarantee	23	4	chain	21	4
prepaid	24	5	accident	23	4	circuit	21	3
boxes	24	6	approval	23	3	crochet	21	5
broken	24	6	aside	23	5	dance	21	4
built	24	4	barley	23	4	deliver	21	3
cap	24	5	barrel	23	5	disease	21	4
hearing	24	6	behalf	23	4	domestic	21	4
holder	24	3	accordingly	22	3	Latin	21	5

longest	21	4	familiar	20	4	manual	18	3
main	21	4	fortunate	19	4	librarian	18	3
membership	21	5	gasoline	19	4	manage	18	4
neither	21	5	good-bye	19	5	lodge	18	5
handy	21	5	grippe	19	3	limit	19	6
happened	21	5	Sat. -	19	4	democratic	18	4
helped	21	5	scrap -	19	4	consist	18	3
inside	21	6	sew	19	3	considerably	18	3
investment	21	3	similar	19	3	collar	18	5
invited	21	6	simple	19	4	pull	18	5
bell	21	4	subscriber -	19	5	press	18	4
combination	21	4	sum	19	4	throughout	18	4
comfort	21	5	taught	19	4	text	18	3
dearest	21	5	track	19	4	sweet	18	5
comfortable	20	5	tried	19	6	stove	18	5
afloat	20	3	yellow	19	5	stopped	18	4
alfalfa	20	4	pocket	19	5	stood	18	5
assistance	20	3	proud	19	5	starting	18	6
bean	20	5	Christian	19	4	schedule	18	5
blood	20	5	cleaning	19	5	sack	18	3
bottle	20	5	confident	19	3	rug	18	6
button	20	5	directly	19	4	route	18	6
hasn't	20	5	drill	19	5	roll	18	5
ideal	20	4	drug	19	5	safety	18	5
ill	20	5	lives	19	5	rock -	18	4
kindest	20	4	loving	19	3	response	18	4
location	20	4	mad	19	6	handsome	18	4
maintain	20	4	merry	19	5	greatest	18	4
message	20	5	mountain	19	4	flour	18	5
moral	20	4	nor	19	4	fifth	18	5
natural	20	4	helpful	19	5	fault	18	4
niece	20	4	ice	19	5	liable	17	4
corner	20	5	installed	19	5	lowest	17	3
disappointed	20	3	investigation -	19	3	match	17	4
park	20	4	actual	19	3	meant	17	6
pie	20	5	appreciation	19	3	noticed	17	4
potatoes	20	5	arranged	19	4	opened	17	4
powder	20	5	arrival	19	4	operating	17	4
space	20	6	assistant	19	4	headquarter	17	4
spirit	20	4	attending	19	4	independent	17	4
studies	20	5	bigger	19	6	indeed	17	4
telling	20	5	blame	19	6	insist	17	4
visiting	20	5	born	19	5	inspect	17	3
voter	20	3	break	19	6	laid	17	5
weak	20	5	bright	19	4	team	17	5
western	20	5	adopted	18	3	wanting	17	4
won	20	5	animal	18	6	weekly	17	4
readily	20	3	ans.	18	3	wheel	17	5
regulation	20	3	assured	18	4	patron -	17	5
renewal	20	4	avenue	18	4	peace	17	4
salary	20	5	colored	18	5	picnic	17	5
salesman	20	4	instance	18	3	primary	17	4
scare -	20	6	ink	18	5	queer	17	4
favored	20	4	homesick	18	6	clock	17	5
finally	20	5	pa -	18	4	closely	17	5
flat -	20	6	ordinary	18	4	complaint	17	5
greater	20	4	naturally	18	5	cough	17	5
hall	20	6	modern	18	4	delightful	17	4
you'll	20	5	meantime	18	4	difficult	17	5

division	17 4	coupon	16 4	cotton	15 3
drum	17 3	delayed	16 4	leaves	15 4
earth	17 5	delighted	16 5	lived	15 5
edge	17 4	die	16 5	loose	15 4
acceptance	17 3	display	16 3	manufacturing	15 3
actually	17 5	dust	16 4	medicine	15 4
advertise	17 5	elected	16 4	nut	15 4
appeared	17 5	conversation	16 3	bridge	15 3
assume	17 4	doubtless	16 3	brush	15 3
bargain	17 3	pardon	16 6	butcher	15 5
belong	17 5	postage	16 5	capable	15 5
cast	17 5	pure	16 4	cared	15 5
responsible	17 4	quantities	16 3	physical	15 4
scientific	17 3	enthusiastic	16 4	pin	15 4
slide	17 5	entry	16 4	pride	15 4
society	17 4	evidence	16 3	profitable	15 4
sport	17 5	expression	16 5	quoted	15 4
strength	17 5	finding	16 5	playing	15 4
entertainment	17 6	finest	16 5	entered	15 3
everyone	17 5	forgive	16 5	example	15 5
examine	17 4	gather	16 5	executive	15 3
expert	17 4	generally	16 3	fortune	15 4
fancy	17 4	glove	16 5	forth	15 3
filed	17 4	grass	16 6	furnishing	15 4
forced	17 4	thereafter	16 3	grip	15 5
handed	17 5	thorough	16 5	grown	15 6
expecting	17 5	throat	16 6	remind	15 4
rec'd	16 5	tickled	16 4	rented	15 5
recommendation	16 3	understood	16 4	riding	15 6
sad	16 4	unpaid	16 3	sickness	15 5
sat	16 5	vicinity	16 5	shade	15 5
secured	16 4	washed	16 5	seventh	15 5
settled	16 4	welfare	16 3	social	15 5
snowed	16 5	wholesale	16 4	stationary	15 4
spoke	16 4	wild	16 6	steady	15 4
strictly	16 5	wrong	16 5	stomach	15 4
supplied	16 4	zone	16 3	stone	15 5
taste	16 4	heir	15 5	submitted	15 4
approved	16 3	herself	15 4	sympathy	15 6
ashamed	16 3	husband	15 4	likely	14 4
attached	16 3	inasmuch	15 3	majority	14 4
attendance	16 3	inclose	15 6	mouth	14 3
based	16 3	individual	15 3	mud	14 5
helping	16 4	intention	15 4	noise	14 4
hole	16 5	language	15 4	obtained	14 4
honor	16 5	jump	15 5	acquaintance	14 4
improve	16 5	king	15 5	adjusted	14 4
inform	16 3	adjustment	15 3	alumni	14 3
listed	16 3	administration	15 3	annually	14 3
lone	16 3	advertised	15 3	anybody	14 5
lie	16 6	analysis	15 3	assignment	14 4
machinery	16 4	argument	15 4	ate	14 3
moving	16 6	assessment	15 3	auditor	14 3
object	16 4	bake	15 4	ballot	14 3
outfit	16 3	type	15 3	studying	14 5
citizen	16 5	waste	15 3	stick	14 3
coast	16 3	whenever	15 5	thread	14 5
coffee	16 4	wise	15 5	township	14 3
containing	16 5	convince	15 3	visited	14 3

## SPELLING VOCABULARY

zero	14 3	hers	13 4	lead	13 4
exceptionally	14 4	human	13 4	spread	13 5
explained	14 4	industry	13 3	rabbit	13 4
explanation	14 4	inferior	13 3	raining	13 5
extended	14 4	instructor	13 5	rainy	13 3
farther	14 6	joined	13 5	raised	13 5
fashion	14 4	kisses	13 4	reception	13 4
federation	14 3	landing	13 4	regretting	13 3
figured	14 4	addresses	13 3	reputation	13 3
ford	14 4	affidavit	13 3	reserve	13 3
fort	14 3	announcement	13 4	retain	13 3
gate	14 4	appointment	13 4	rough	13 4
gee	14 3	attended	13 4	satisfy	13 4
guest	14 4	Aug.	13 4	shipper	13 3
race	14 4	base	13 3	server	13 3
rapidly	14 3	beauty	13 4	signature	13 3
reaches	14 5	bee	13 4	soil	13 4
reduced	14 4	pencil	13 4	someone	13 3
render	14 3	postcard	13 4	credited	13 4
retail	14 4	principle	13 5	valuable	13 4
sewing	14 4	providing	13 3	unnecessary	13 3
sense	14 4	quantity	13 3	absence	12 4
caught	14 5	engineering	13 3	accomplish	12 3
correspondent	14 4	essential	13 3	actor	12 3
cute	14 5	established	13 4	afterward	12 3
deep	14 4	exceptional	13 4	announce	12 3
bid	14 4	failure	13 4	applicant	12 3
biggest	14 4	favorably	13 4	athletics	12 3
commence	14 3	folder	13 5	author	12 4
commerce	14 3	gray	13 6	automatic	12 3
booth	14 3	group	13 3	cheaper	12 3
capacity	14 3	happiness	13 5	chief	12 4
carrying	14 4	chapter	13 3	companies	12 4
penny	14 4	cigar	13 4	completely	12 5
pole	14 4	closing	13 4	compliment	12 4
possession	14 4	connect	13 4	consequently	12 3
possibility	14 3	construction	13 3	crocheting	12 3
practically	14 3	control	13 3	crowded	12 4
protest	14 4	cottage	13 3	cup	12 5
pump	14 4	cure	13 4	damage	12 3
honest	14 4	beyond	13 5	belt	12 5
influence	14 4	brief	13 4	bird	12 5
inquire	14 5	bugs	13 3	blew	12 5
jobber	14 3	burden	13 5	boat	12 3
killed	14 6	calves	13 4	bracelet	12 5
lace	14 4	candidacy	13 4	bringing	12 4
largely	14 4	standing	13 4	burn	12 4
nervous	14 6	strike	13 5	cartoon	12 3
linen	13 5	surplus	13 4	parlor	12 4
named	13 6	tank	13 3	partly	12 4
neck	13 5	tax	13 4	patent	12 4
neighborhood	13 4	teeth	13 4	peach	12 5
orange	13 3	thin	13 4	pillow	12 4
orchestra	13 4	toward	13 5	pine	12 3
organize	13 3	transportation	13 4	plainly	12 3
organized	13 3	weigh	13 5	planned	12 3
owing	13 3	whereby	13 5	porch	12 4
heat	13 4	winner	13 4	positive	12 3
hence	13 4	X-ray	13 4	priced	12 4

printing	12 4	yoke -	11 3	violin	11 4
professional	12 5	zephyr -	11 4	voice	11 3
progress	12 3	letting	11 5	wearing	11 4
inclosing -	12 3	lump -	11 3	ache	10 5
income	12 4	master	11 5	acted	10 4
institute	12 3	meat	11 3	adjust	10 4
international	12 3	mend	11 5	altogether	10 5
joke	12 4	northern	11 3	apparatus -	10 3
kill	12 4	oversight	11 4	aren't	10 3
knowing	12 3	opportunity	11 4	Ave. -	10 3
lonely	12 4	parent -	11 4	chart -	10 3
laugh	12 4	permanent	11 4	civics -	10 3
leg	12 5	popular	11 3	cleaner -	10 3
neat	12 4	preparing	11 3	clearly	10 3
necessity	12 3	production	11 3	coarse	10 3
neglect	12 4	passing	11 3	concluded -	10 3
nerve	12 4	quart	11 4	conduct	10 3
nose	12 5	raising	11 4	considering	10 4
operated	12 3	remedy	11 4	correction	10 3
owned	12 3	remembered	11 4	correspond	10 3
pack	12 4	renew	11 4	current	10 4
packed	12 5	requesting	11 3	dairy	10 5
shopping	12 4	silver	11 5	dated	10 3
seeing	12 3	sink	11 4	debt	10 5
sincere	12 4	sixth	11 4	calm	10 3
stair -	12 4	skating	11 4	attach	10 3
staying	12 4	slightly	11 4	attractive	10 4
stories	12 3	snowing -	11 4	bay -	10 4
supposed	12 4	aware	11 3	begun	10 4
swell -	12 5	beef -	11 4	believing	10 3
thankful	12 4	birth	11 6	bench -	10 3
themselves	12 5	bonus -	11 3	blizzard -	10 3
trunk	12 5	cabinet	11 5	boss	10 3
turned	12 5	cellar	11 6	ranch	10 5
wood	12 5	concert	11 5	recover	10 4
wool	12 5	confined	11 4	refund	10 3
workmanship -	12 4	constitution	11 4	rendered	10 3
worried	12 3	corporation	11 3	reported	10 3
worst	12 6	dad -	11 4	shortly	10 3
exclusively -	11 4	dancing	11 5	shut	10 4
explaining	11 4	admission	11 3	sheep	10 5
fence	11 4	affectionately	11 4	selected	10 3
figuring	11 5	algebra -	11 5	sitting	10 4
finger	11 5	ample	11 4	soft	10 4
fishing	11 5	appearance	11 3	solicit	10 3
frost	11 5	attempt	11 4	pastor	10 4
fruit	11 3	attraction	11 3	particularly	10 3
geography	11 4	await	11 3	patch -	10 4
growth	11 4	invite	11 3	phoned	10 3
handled	11 3	steel	11 3	picking -	10 5
haste	11 5	studied	11 3	plum -	10 4
hesitate	11 3	succeed	11 4	polls -	10 4
honestly	11 5	suggested	11 3	poorly -	10 3
hunt	11 5	supervisor -	11 4	proven	10 4
hunting	11 5	tatting -	11 4	qualities	10 3
illustrated	11 4	tie	11 4	learning	10 4
instructed	11 3	tile	11 3	management	10 3
justify	11 4	valley	11 5	mate	10 4
lamb -	11 3	variety	11 5	mental	10 4

misses -	10 5	smooth	9 4	earnest	9 3
needing -	10 4	sock ~	9 4	elsewhere	9 4
notified	10 3	soldier	9 5	entitle	9 5
occupied	10 3	source	9 5	excitement	9 4
opera	10 4	specification	9 3	executed	9 3
hereby	10 4	strongest	9 4	exhausted	9 4
inconvenience	10 4	sugar	9 3	feeder	9 4
introduced	10 4	supervision	9 3	inclined	9 3
investigate	10 4	talent	9 4	inquiries	9 3
jar	10 3	tested -	9 4	inspector	9 4
knee	10 4	topic	9 4	instrument	9 3
entering	10 4	towel ~	9 3	internal	9 4
famous	10 4	trace	9 5	involved	9 4
feeding -	10 5	transfer	9 4	ironing	9 3
fish	10 3	unusually ~	9 3	jury	9 3
froze	10 5	wake	9 3	knot ~	9 5
friendly	10 4	walked	9 4	lbs. ~	9 3
gained	10 5	walking	9 4	leather	9 4
granted	10 4	weren't ~	9 4	lift	9 4
harvest	10 5	witch ~	9 5	listen	9 3
spelling -	10 4	worker ~	9 4	losing	9 4
stage	10 4	worm	9 4	loyal	9 4
stating	10 3	canvass ~	9 4	lung ~	9 4
stunt	10 4	carpet ~	9 3	maid	9 4
succeeded	10 4	backing ~	9 4	maker ~	9 4
tenth	10 5	bat ~	9 4	mass	9 5
throw	10 5	bite	9 3	mechanical	9 4
toy	10 5	boiler ~	9 4	nineteen	9 4
treat	10 3	forenoon	9 4	notion	9 4
unusual	10 3	formerly	9 4	percent ~	9 3
voting -	10 3	frankly	9 4	politics	9 3
wage ~	10 6	freeze	9 4	peculiarities ~	9 3
watched	10 6	French	9 4	privilege ~	9 3
wedding	10 3	fullest ~	9 4	prospective ~	9 3
enrollment	10 3	genuine	9 3	prosperity ~	9 3
entertain	10 5	girlie ~	9 3	prosperous	9 3
evidently	10 3	government	9 4	proved	9 3
exam. ~	10 5	grammar	9 3	queen	9 4
extremely	10 5	gravy ~	9 3	changing	9 4
favorite	10 4	grocery	9 3	compelled	9 4
funeral	10 3	heap	9 5	composition	9 3
ghost ~	10 4	accommodate	9 3	confer	9 3
hang	10 5	accompanying ~	9 3	confirmation ~	9 3
rack ~	9 3	alive	9 4	constantly	9 4
reduce	9 3	applied	9 3	contained	9 4
remove	9 3	assembly	9 4	consequence	9 3
removed	9 5	assurance	9 4	cheer	8 4
renter ~	9 4	convinced	9 4	choir	8 4
resigned	9 5	dare ~	9 3	choosing ~	8 4
rheumatism ~	9 3	described	9 4	chose	8 3
ribbon	9 3	destroyed	9 3	conservatory ~	8 3
row	9 4	development	9 4	consultation ~	8 4
rural	9 4	directed	9 3	inch	8 3
rust ~	9 3	dirty	9 3	junk ~	8 3
seldom ~	9 4	disposal ~	9 4	junior	8 3
setting	9 5	dispose	9 3	justified	8 3
seventy	9 3	disposed	9 3	kiss	8 3
signing ~	9 4	dreadful	9 3	kitten ~	8 3
slippery ~	9 3	durable	9 3	leisure	8 3

license	8 3	absolute	8 3	waited	8 4
lighting	8 4	activity	8 4	watching	8 3
limb	8 5	agreed	8 3	rail	8 4
lining	8 4	agricultural	8 3	recall	8 4
literary	8 4	allotment	8 3	recite	8 3
loved	8 3	ambition	8 3	refused	8 5
produced	8 3	artist	8 4	remembrance	8 4
lucky	8 4	formed	8 4	renting	8 4
maple	8 3	forwarding	8 3	repeat	8 4
marking	8 3	friendship	8 3	representation	8 3
minister	8 3	gaining	8 3	reservation	8 3
misunderstanding	8 4	glasses	8 3	responsibility	8 4
moderate	8 4	glorious	8 3	rice	8 3
namely	8 4	grant	8 4	rolling	8 3
nearer	8 4	grind	8 3	roof	8 4
ninety	8 4	guide	8 4	collecting	8 3
nobody	8 4	Hallowe'en	8 3	connected	8 3
occasionally	8 4	hare	8 3	relieved	7 4
oldest	8 5	hit	8 3	remembering	7 4
ordering	8 3	honorable	8 4	renewed	7 5
organ	8 4	hoped	8 4	rod	7 3
originally	8 4	household	8 3	Sabbath	7 3
overcoat	8 4	humor	8 4	satisfactorily	7 3
pain	8 4	illustration	8 3	scarce	7 3
painter	8 5	attain	8 4	shoulder	7 4
pearl	8 3	auntie	8 3	silence	7 4
personality	8 3	colt	8 4	sin	7 3
pink	8 4	braid	8 4	sis	7 4
plow	8 4	branches	8 4	skate	7 3
posted	8 4	brand	8 5	soap	7 3
preacher	8 5	breaking	8 4	soliciting	7 3
presented	8 3	bro.	8 3	sorrow	7 3
procured	8 3	camp	8 5	spot	7 3
quotation	8 3	carnival	8 3	straightened	7 4
materially	8 3	saddle	8 3	strawberries	7 4
conveniently	8 3	shock	8 4	strict	7 4
cooking	8 4	shot	8 3	strongly	7 3
cord	8 3	showed	8 3	sunshine	7 4
cordial	8 3	seller	8 5	superior	7 3
correctly	8 4	served	8 3	that's	7 4
darling	8 4	sire	8 3	theatre	7 4
debate	8 3	sleet	8 3	thesis	7 3
demonstration	8 4	smaller	8 3	tract	7 3
decline	8 4	smart	8 5	treated	7 3
devoted	8 4	snap	8 3	tuberculosis	7 4
dose	8 5	somewhere	8 3	Tues.	7 4
dread	8 3	speed	8 3	turkey	7 3
dressed	8 5	spending	8 3	universal	7 4
dwelling	8 3	struggle	8 5	satisfactory	7 3
earning	8 4	surface	8 4	vision	7 4
electrical	8 3	tanning	8 3	weighed	7 4
electricity	8 4	telegram	8 3	we've	7 3
employee	8 3	tend	8 4	withdraw	7 3
entertaining	8 3	tip	8 3	worthy	7 3
establish	8 3	transit	8 3	yourselves	7 4
expressed	8 3	travel	8 4	brick	7 3
extensive	8 3	tread	8 3	broad	7 3
fare	8 5	treasurer	8 3	builder	7 3
faster	8 3	vacant	8 4	bulk	7 3

calender	7 4	expired	7 3	hauled	6 3
canned	7 3	extreme	7 3	healthy	6 3
attitude	7 3	fabric	7 3	kinder	6 4
authorized	7 4	factor	7 3	housekeeping	6 4
avoid	7 3	factories	7 4	hustling	6 4
banquet	7 4	fashionable	7 4	improving	6 3
belonging	7 4	fierce	7 4	authority	6 3
blackberries	7 4	filling	7 3	backed	6 3
blessed	7 4	financially	7 3	barely	6 4
booster	7 3	fitted	7 3	baking	6 3
bowl	7 3	fitting	7 3	bass	6 3
brain	7 3	included	7 4	battle	6 4
fourteen	7 4	introduction	7 3	beaten	6 3
frame	7 4	ivory	7 3	beet	6 3
fundamental	7 3	label	7 4	bible	6 5
generous	7 4	lame	7 4	billed	6 4
glee	7 3	legal	7 3	blooming	6 3
globe	7 4	legislation	7 3	boarding	6 3
goose	7 3	level	7 3	buggy	6 3
gown	7 4	liquid	7 3	candle	6 3
gradually	7 3	loaded	7 4	cane	6 5
grit	7 4	musical	7 4	captain	6 3
hen	7 4	nap	7 3	sash	6 3
heretofore	7 5	narrow	7 3	saved	6 3
herein	7 3	nickle	7 3	scale	6 4
immense	7 3	noted	7 3	score	6 3
impression	7 4	ocean	7 3	seal	6 4
acting	7 3	outlined	7 3	search	6 5
alley	7 5	oven	7 4	shame	6 4
amendment	7 3	phosphorus	7 3	shed	6 4
anniversary	7 3	pneumonia	7 4	serving	6 3
appendicitis	7 3	possess	7 4	slept	6 4
arriving	7 3	practicing	7 3	slight	6 4
assortment	7 3	prayer	7 4	slipper	6 3
cooler	7 3	preliminary	7 3	song	6 3
corrected	7 3	printer	7 3	specially	6 3
courage	7 4	process	7 3	steam	6 4
damp	7 3	promotion	7 4	stranger	6 4
data	7 4	protected	7 3	struck	6 4
decision	7 3	prevail	7 5	substitute	6 3
dearly	7 3	overlooked	7 3	suffering	6 4
deeply	7 3	cat	7 3	surgery	6 3
demonstrated	7 4	cement	7 5	sweater	6 3
deserve	7 3	cheerful	7 3	temple	6 3
discourage	7 3	circus	7 4	tent	6 3
discovered	7 3	confirm	7 3	thereof	6 3
drilling	7 3	connecting	7 3	thick	6 4
eighteen	7 4	constant	7 3	tight	6 3
eighty	7 4	commissioner	7 3	timothy	6 3
elect	7 4	foreign	6 3	tiny	6 3
employer	7 3	forest	6 3	trained	6 3
engineer	7 3	frequently	6 3	traveling	6 4
enormous	7 3	fuel	6 3	uniform	6 3
enroll	7 3	geometry	6 3	upper	6 3
enthusiasm	7 4	germ	6 3	utmost	6 3
ere	7 3	German	6 3	velvet	6 3
estimated	7 3	graduating	6 3	weary	6 3
examined	7 3	grew	6 3	worrying	6 4
exciting	7 3	hardware	6 4	woven	6 4

youth	6	3	inducement	6	3	hereafter	5	4
dice	6	3	ingredients	6	3	homestead	5	3
accomplished	6	3	insert	6	4	hurried	5	3
contemplating	6	3	instruct	6	4	identify	5	4
co-operating	6	3	interfere	6	3	illness	5	4
courteous	6	3	island	6	1	illustrating	5	3
creamery	6	3	joyful	6	3	adding	5	3
crew	6	4	leaf	6	4	adventure	5	3
customary	6	3	liver	6	5	advisable	5	3
dangerous	6	3	loud	6	4	ankle	5	3
definitely	6	4	maturity	6	4	anticipating	5	3
dependent	6	3	mere	6	4	anyhow	5	3
deportment	6	3	meter	6	3	asleep	5	5
depending	6	3	mister	6	3	associate	5	3
deliveries	6	3	needle	6	3	reaching	5	3
deserved	6	4	nephew	6	5	realizing	5	3
disappoint	6	4	notary	6	4	recess	5	3
discontinued	6	3	numerous	6	4	refreshment	5	4
dream	6	3	odd	6	4	relationship	5	3
dresser	6	3	packing	6	3	resident	5	3
drew	6	4	painted	6	3	resource	5	3
eager	6	3	pavement	6	4	respond	5	3
eleventh	6	3	pending	6	3	ruin	5	3
employed	6	3	pertaining	6	4	rushed	5	4
encourage	6	4	physician	6	3	rye	5	3
enrolled	6	3	planted	6	3	continuous	5	3
epidemic	6	3	politician	6	4	contrary	5	3
equally	6	3	post office	6	4	counting	5	3
excited	6	3	prevented	6	3	coy	5	3
exhibition	6	3	performed	6	3	creep	5	4
existing	6	4	ninth	6	3	crib	5	3
federal	6	4	nevertheless	6	3	crippled	5	3
raiser	6	3	likewise	6	3	cushion	5	3
rank	6	3	inviting	6	4	daddy	5	4
recovered	6	3	installment	6	3	debating	5	3
refuse	6	4	absent	6	3	decrease	5	5
regardless	6	3	accredited	6	3	desiring	5	3
reliability	6	3	acquire	6	4	destination	5	4
relieve	6	3	administrator	6	3	disagreeable	5	3
remained	6	4	admit	6	3	disappointment	5	4
remark	6	4	advancement	6	3	disgusted	5	3
resulting	6	3	agreeable	6	5	drama	5	3
rifle	6	3	ambitious	6	3	ease	5	3
rip	6	3	anticipate	6	4	examiner	5	3
rubber	6	4	apart	6	3	excess	5	3
charming	6	4	appreciating	6	3	flavor	5	3
checked	6	3	associated	6	3	flesh	5	4
cherries	6	5	frozen	5	3	followed	5	3
chill	6	3	graze	5	4	foolish	5	3
chop	6	3	gland	5	3	female	5	4
clothing	6	3	goat	5	4	fern	5	4
coin	6	3	gold fish	5	4	dodge	5	3
companion	6	3	graduation	5	3	duties	5	3
comply	6	5	grandfather	5	3	chum	5	3
conclusion	6	3	gratitude	5	3	celebrate	5	4
confirming	6	3	harder	5	4	channel	5	3
congratulate	6	4	hastily	5	4	characteristic	5	3
congratulation	6	4	headache	5	3	clay	5	4
contemplated	6	3	heating	5	4	clever	5	3

climate	5 4	nearest	5 4	tea	5 3
cloudy	5 4	nicer	5 4	temporary	5 3
closer	5 3	occurred	5 3	terribly	5 4
coasting	5 4	pail	5 3	thirteen	5 3
colder	5 3	pal	5 3	thrown	5 3
complement	5 3	partner	5 4	toe	5 5
compared	5 3	pan	5 3	tore	5 4
condemned	5 4	pickle	5 4	treasure	5 3
consent	5 3	poultry	5 4	truth	5 3
contented	5 3	progressive	5 3	twenty-five	5 4
consult	5 3	proportion	5 4	undertake	5 3
constructed	5 3	purple	5 4	unexpected	5 4
inquiring	5 3	quilt	5 3	unpleasant	5 3
insignificant	5 3	presentation	5 3	urged	5 5
invest	5 3	now-a-days	5 4	urgent	5 5
jealous	5 3	polite	5 3	via	5 5
jelly	5 4	organizing	5 3	walnut	5 5
laundry	5 4	pear	5 3	wasted	5 5
lamp	5 3	scarcely	5 3	widow	5 4
led	5 3	sea	5 4	yield	5 3
lend	5 3	shortage	5 3	attack	5 4
lively	5 3	severe	5 3	attacked	5 3
Lord	5 4	shell	5 3	beginner	5 5
lying	5 3	shining	5 4	coloring	5 3
major	5 3	sidewalk	5 3	combine	5 3
male	5 3	smoke	5 4	combined	5 5
mast	5 3	speech	5 3	boost	5 3
measuring	5 4	spoil	5 5	carpenter	5 4
measurement	5 4	spoon	5 3	cabbage	5 4
mentioning	5 3	staid	5 3	bark	5 3
mileage	5 3	stopping	5 3	buried	5 3
military	5 3	straw	5 4	breath	5 4
mode	5 4	stuck	5 4	fore	5 3
muddy	5 3	substantial	5 3	formula	5 4
moisture	5 3	survey	5 3	fought	5 5
mood	5 3	tape	5 3		
mutually	5 3	task	5 4		

## CHAPTER IV

### A COMPARISON OF VARIOUS WORD LISTS DIFFERENT WORDS AND RUNNING WORDS OF VARIOUS STUDIES COMPARED

From Table VIII it will be seen that Ayres found 2001 different words in 110,160 running words. Jones in his study reported that in 15,000,000 running words approximately 4532 different words were found. It seems incredible that in such a large number of running words only about 4532 different words should be found. Unfortunately, as has been said before, Jones did not give the total number of words or the frequencies of occurrence. The writer is inclined to think that these numbers are very rough estimates. Cook and O'Shea analyzed 200,000 running words and found 5200 different words. Studley and Ware found 3459 different words in 200,000 running words, while Miss McFadden and Dr. Burk found 6916 different words in only 19,288 running words. In the latter study nearly 36 per cent of the total running words are different words, while the studies of Ayres, Jones, Cook, and O'Shea show less than 3 per cent of different words. In the present study 9223 different words were found in 361,184 running words. This great variation shows the danger of drawing conclusions from the findings of a single study, especially when it is quite limited in scope.

It is safe to say that the only way to come near exhausting the supply of different words used in correspondence would be to tabulate many thousands of running words of each of the various kinds of correspondence. This would be a tremendous and useless task as the later occurring words would be the uncommon words, or those peculiar to particular callings.

#### - NUMBER OF DIFFERENT WORDS FOUND

In comparing the results of the present study with those of other investigators some interesting revelations are made. By referring to Chapter I, it will be seen that in 12 of the 15

studies discussed a record is given of the number of different words found. Of these the study made by Miss McFadden and Dr. Burk shows the greatest number of different words,—6916. This is 1685 more than was found in any of the remaining studies, excepting the study made by R. C. Eldridge, which is not properly a study of writing vocabularies. This study and that of Rev. Mr. Knowles, as stated in a previous chapter, were included chiefly because of their historical connection. It will be seen that the present study, which shows 9223 different words, reveals 2307 more different words than any of the 15 studies mentioned. This number (2307) is greater than the total number of different words found in Ayres' study of 2000 different letters.

In comparing the number of different words found in the original studies made by Ayres, Jones, Cook and O'Shea, Miss McFadden and Dr. Burk, and Studley and Ware, respectively, with the number found in the present study it will be seen that the present study contains 7222 more different words than the study of 2000 letters made by Ayres; 4691 more than were found by Jones in his study of 75,000 school children's themes; 4023 more than were found by Cook and O'Shea in their study of family correspondence; 2307 more than were found by Miss McFadden and Dr. Burk in their analysis of 91 letters; and 5764 more than were found by Studley and Ware in their analysis of 920 compositions. In thus comparing the number of different words found in these studies allowance must be made for the fact that the scoring was not exactly alike in any two cases. The numbers therefore are only roughly comparable.

#### RELATION OF DIFFERENT WORDS TO RUNNING WORDS

In the present study a larger number of running words was tabulated than in any of the studies mentioned in Chapter I, excepting the study made by Jones. It is safe to say, in general, that the greater the number of running words tabulated the greater will be the number of different words found. The ratio of the different words to the total number of running words, however, varies inversely with the increase of running words. That is, the percentage or number of different words

found becomes a smaller and smaller fraction of the total number of running words. New words, however, will occur in many successive thousands of running words. This is evident from the fact that after 3700 letters had been analyzed in the present study new words were still occurring. It is revealed also in the special tabulation of successive units of running words shown in Table XII, page 25, and in the tabulation made by Cook and O'Shea, in which the correspondence of three individuals was tabulated up to and including 40,000 running words.\* Here in the fortieth thousand running words one individual used 19 new words, one 12, and one 17. The ratio of the number of different words to the total number of running words will not be revealed, however, by comparing the results of different studies unless they are sufficiently comparable throughout.

#### RELATIVE USE OF A FEW WORDS

It has been shown by various investigators that a relatively small number of different words with their repetitions comprises the greater part of a common writing vocabulary. According to Rev. Mr. Knowles, about 350 words with their repetitions comprised over 75 per cent of the 100,000 words tabulated. Mr. Eldridge says that 750 words with their repetitions constituted more than three-fourths of all the words on the eight pages of the newspapers from which they were taken. Dr. Ayres found that 542 words with their repetitions constituted seven-eights of the entire number of words tabulated from all the letters, and that 43 words were repeated so frequently that they furnished one-half of the aggregate of nearly 24,000 words tabulated. In the present study it was found that 14 words with their repetitions comprised approximately one-fourth of the total number of running words. Similarly, 77 words with their repetitions comprised one-half of the total running words, and 442 words comprised three-fourths of the total number. The remaining 8690 different words with their repetitions make up the last one-fourth of the total number of running words.

#### PRESENT STUDY AND AYRES' ORIGINAL STUDY COMPARED

Among the various studies that have been made on spelling

\* Cook and O'Shea, *The Child and his Spelling*.

he original study of 2000 personal and business letters made by Dr. Ayres is probably the best known and most used. Therefore a more detailed comparison of the methods of scoring and the findings of this study is made with the present study. The number of letters analyzed, the total number of running words included, and the number of different words found in these two studies have already been referred to various times throughout this thesis. But as a matter of convenience for comparison they are repeated here. In the present study the number of letters analyzed was 3723, the total number of running words was 361,184, and the number of different words found was 9223. In the study made by Ayres the number of letters analyzed was 2000, the number of running words was 110,160, and the number of different words found was 2001. The methods of scoring and tabulating in the present study are given in detail on page 28.

#### METHOD EMPLOYED BY AYRES

The method employed by Ayres is explained by him as follows: "Owing to the labor involved in tabulating the vocabularies, the entire letters were not analyzed, but a random sampling was made by tabulating the first word in each line of every letter, and making separate tabulations of the salutations and endings. Following this method, and using index cards for record purposes, a word-by-word tabulation was made of 23,629 words, or roughly one-fifth of the entire number of words contained in all the letters. In arriving at this number the 'beginning' and 'ending' words, such as 'Dear Sir', 'Yours truly', etc., were included only in their proper proportion. That is to say, the final tabulations include something less than one-fifth of them. . . . In making the tabulations names of numbers, persons, and places were omitted."

Ayres, in his study, counted the article "A" and the pronoun "I" as separate words. In the present study these were not recorded. The nature of the letters analyzed and the various sources from which they had come, according to Ayres, were as follows: "The material of the investigation consisted of 2000 letters, the vocabularies of which were tabulated word for

word. These letters were secured from twelve sources, and were of the following sort:

Letters to firms doing a mail order business  
Letters received by a practicing physician  
Letters to the query department of a city newspaper  
Letters received by a practicing lawyer  
Letters received by school teachers from parents of pupils  
Miscellaneous business letters to a publishing firm  
Letters received by the secretaries of the Y. W. C. A.  
Letters received by a playground association  
Letters received by a philanthropic organization  
Personal family letters from a large number of sources  
Letters received by a magazine conducting a query department

A small but varied collection of love letters."

From the above it will be seen that the letters analyzed in this study represent a great variety of different interests. When the diverse and varied nature of the letters is borne in mind and the fact that they were written by 2000 different individuals, it seems strange that the number of different words found should be so much smaller than the number found in the present study. The writer has no information as to the geographical distribution of the sources from which these letters were collected. Furthermore, there is no evidence to show that a different distribution would have resulted in an appreciably greater number of different words. It seems probable, however, that letters collected from parents and friends of the school children of various cities throughout the state would be likely to represent a wider range of educational levels than letters collected by one or a few individuals in a given city.

#### RELIABILITY OF METHOD

It is somewhat questionable whether the method employed by Ayres of tabulating the first word of every line in each letter is sufficiently reliable for determining the number of different words used. When one bears in mind the fact that additional new words occur throughout many successive thousands of running words it seems reasonable to assume that more different words would also have been found if the remaining words in

every line of the 2000 letters had been tabulated. It should be said, however, that Ayres does not claim this study to be sufficiently reliable or extensive to determine the most common words used in writing. Concerning this he says, "No final conclusions can be drawn from the results of this study for it is too limited in scope to warrant them."

If a tabulation of the first word in every line can be taken as sufficiently reliable it may be said that the methods of scoring and tabulating employed in the two studies have been fairly comparable throughout, aside from the fact that in one of the studies the single letters "A" and "I" were counted as words while in the other they were omitted.

#### PROBABLE REASONS FOR DIFFERENCE IN NUMBER OF WORDS FOUND

In comparing the total number of different words found in each of these two studies one might reasonably expect to find more words in the present study than were found in the study made by Ayres, because of the fact that many more letters were analyzed in the present study. It does not seem, however, that the difference should be so great; that there should be over four and one-half times as many different words found in the present study as were found by Ayres in his study. This the writer believes is to be explained, in part at least, by the fact that in the Ayres study only the first word of every line was tabulated. That the difference is not due chiefly to the greater number of letters or running words analyzed is shown by the fact that in each of the four general groups, of the present study, taken separately, more different words were found than were found by Ayres. By referring to Table X on page 22 it will be seen that in each of these groups there were fewer than 2000 letters analyzed, and in three of the four groups more than twice as many different words were found. From this table a comparison can readily be made with each of these groups separately, showing the number of letters analyzed, the total number of running words and the number of different words found.

#### WORDS AND THEIR REPETITIONS CONSTITUTING ONE-FOURTH OF TOTALS

The following table shows the words which with their repe-

titions constitute one-fourth of the total number of running words tabulated in each of the two studies.

TABLE XIII

*Words and their repetitions constituting one-fourth of totals*

Ayres' Study		Present Study	
I	1080	and	11893
the	918	the	10878
and	697	to	9965
you	635	you	8090
to	627	of	7339
your	585	in	6533
of	511	your	5269
for	415	for	5122
in	391	we	4705
	5859	is	4650
Dear	380	that	4622
will	297	it	4214
my	258	have	3996
with	255	are	3885
			91161

From the above it will be seen that "I" which was not recorded in the present study occurred 1080 times in the tabulations made by Ayres. This is over 18 per cent of 5859. Excluding "A" and "I" from the Ayres list for the above comparison, the words next in order and their frequencies would be: *dear*, 380; *will*, 297; *my*, 258; and *with*, 255. These four words would then be necessary to constitute approximately one-fourth of the total running words recorded.

#### COMPLETENESS OF WORD LIST

It will be remembered that in making up the final list of words in the present study the arbitrary method of selecting all words which occurred in three or more of the six general groups (see page 22) with a frequency of five or more was adopted, and that this gave 3087 words for the final list. The question now naturally arises as to whether this list of 3087 words includes all or practically all words that are sufficiently common to be taught in the elementary school, and also whether the list still includes words that are not sufficiently common for this purpose. Some light will be thrown on this question by comparing the final word list of the present study with the tentative list made by H. C. Pryor of the University of Colorado. Mr. Pryor made a study and compilation of twelve different spelling tests and word lists. These are referred to on page

13 of this thesis. The method of procedure used by Pryor is explained by him as follows:

"After the lists had been selected, each one was numbered and all the words were checked off in a dictionary. The figure 'one' was placed before every word in the dictionary which occurred in the Eldridge list. 'Two' was placed before each word that was found in the Jones list. The other ten lists were checked against the dictionary after the same fashion. Altogether, about 30,000 words were checked. By far the greater number occurred in only one list, a somewhat smaller number in two lists and so on down to 121 that were common to 10 lists, 45 were common to 11 lists, and only 9; viz., *again, any, believe, look, many, money, remember, there, and through*, were found in all the lists. It was arbitrarily decided to include in the final list all words which occurred in at least six of the twelve lists examined. There were 1309 such words. To this number were added 169 words from the Ayres scale which were not among these 1309 words, making a total of 1478 words." These 1478 words were tentatively graded by Pryor and constitute his "Minimal" list for grades 2 to 8, inclusive.

#### COMPARISON OF PRESENT LIST WITH PRYOR LIST

In order to see how the 1478 words given in the Pryor list compare with those occurring most frequently in the present study, the two word lists were compared and checked. It will be remembered that the present final list contains altogether 3087 words as against 1478 contained in the Pryor list, or 1627 words more than are given in the Pryor list. In checking the words in the Pryor list against those in the original list of the present study, which shows the frequencies by groups, it was found that many of the 1627 words which are not given in the Pryor list occurred in the present study in several of the different groups with a high frequency. In order to give some idea of the nature of these words a list is here given of 207 words, each of which occurred in four of the general groups with a total frequency of 20 or more. The numbers in the list show the total frequency of occurrence for each word. In making out this list, derived forms were omitted, except where the word occurred only in a derived form.

## WORDS NOT FOUND IN THE PRYOR LIST

ability	29	draft	66	liberal	26
acre	103	either	113	library	43
advance	81	electric	26	list	194
advise	134	eleven	24	luck	33
agency	55	enclose	142	lunch	26
agent	130	endeavor	22	madam	49
degree	37	envelope	54	main	21
agriculture	53	equal	24	make	792
aid	49	error	37	mamma	92
aim	26	eve	35	May	69
and	11,893	exact	22	merchandise	2
anyone	123	excellent	60	message	20
art	44	exhibit	24	model	32
average	39	extra	95	net	72
awhile	22	fat	48	normal	28
bag	25	feature	24	nurse	34
barrel	23	fifteen	49	oh	42
barley	23	film	25	oil	48
bean	20	fit	37	or	1235
below	53	flat	20	package	51
bet	32	follow	71	paint	57
bit	54	force	43	parcel	31
blank	140	fun	52	pattern	27
blood	20	fund	30	pen	23
bottle	20	furnish	86	plate	54
bulletin	33	gain	30	policy	81
bunch	26	gallon	41	presume	29
bureau	23	garage	31	prevent	31
called	109	gas	39	prize	51
cap	24	gifts	65	profits	83
careful	73	graduate	40	program	83
cash	73	grateful	24	proposition	85
central	31	grove	26	prospect	43
certificate	87	habits	38	pupil	55
chautauqua	26	handle	83	purchase	45
choice	42	handy	21	quality	58
commission	75	hardly	88	quit	49
community	31	hate	28	range	26
content	27	hello	54	realize	63
contest	65	herewith	194	record	119
coal	28	hide	44	register	70
correct	52	hogs	57	regret	34
council	38	holiday	38	regular	94
county	123	however	151	remit	39
crazy	24	hurry	33	rent	63
credit	105	ideal	20	require	46
crop	43	invoice	36	rich	26
dandy	51	January	209	rush	27
day	1057	job	97	sample	146
deed	45	join	49	save	60
definite	33	journal	30	science	23
demand	74	kid	57	scout	41
depend	36	Latin	21	semester	28
detail	37	law	80	shape	36
discount	48	leader	30	sheet	45
disease	21	lecture	39	silk	40
domestic	21	less	87	simply	32

shirt	26	style	51	welcome	57
slip	32	submit	29	well	850
somewhat	23	test	50	were	601
sore	23	thirty	44	white	83
sort	30	title	36	who	384
sound	28	touch	27	will	3486
space	20	trade	77	wind	26
spare	23	treatment	28	word	83
spirit	20	twenty	57	worry	23
step	23	twice	33	write	630
storm	32	united	25	you	8090
stuff	25	value	102	young	91

It will be seen that some of the words in this list occurred with high frequency in the present study. It seems strange that the words "and," "or," "day," "make," "will," "who," "you," "write," and "well" should not be included in the Pryor list. The writer is inclined to think that the omission of some of these words from the Pryor list is due to the method employed in scoring and tabulating.

The following 30 words contained in the Pryor list are not given in the present list. Most of these words appeared in the study, but did not occur frequently enough to be included in the final list of 3087 words.

#### WORDS NOT FOUND IN THE PRESENT LIST

allege	convict	palace
autumn	dash	police
beneath	dispute	raisin
blossom	empire	region
bury	equator	struck
bruise	government	shepherd
burglar	hammer	ugly
capture	mice	vacation
cabin	nuisance	tariff
career	obedience	tongue

#### CONCLUSIONS

From the above it will be seen that neither of the two lists is complete, and that not all simple and familiar words are revealed by this method, even when a large amount of material is scored and tabulated. When such familiar words as "autumn," "bury," "dash," "mice," "police," and "ugly," are not used in 3723 letters of the most varied nature, it seems safe to say that in order to catch the last one of these, or similarly familiar words, many more thousands of letters would have to be scored and tabulated.

The purpose of the present study, however, has been not to

catch the "last" common and familiar word in the tabulated list, but to show approximately the words commonly used. Contrary to opinions formerly held, the present study shows that there are at least 3000 or 3500 common and familiar words that any individual of average intelligence might have occasion to use in letter writing. This does not mean, however, that every one of these words need necessarily be taught in formal spelling lessons in the elementary school. Some of the older spelling books which contain many more words do not include some of the most familiar and simple words. Furthermore, there is a growing conviction among educational leaders that fewer words should be taught in formal spelling lessons and that attention should be given rather to spelling in connection with all written work.

## APPENDIX

### MISSPELLED WORDS

By referring to the directions for teachers and pupils on page 16, it will be seen that the teachers were asked to have the pupils review a list of common words most likely to be misspelled, and that the pupils were required to record separately all misspelled words. The returns of these lists were classified at the University and separate lists were compiled for each of the general groups of domestic, business, and professional correspondence, (see Table X, page 22) and for the personal and farmers' correspondence combined. The special groups of letters from doctors, bankers, and automobile dealers are included in the business and professional correspondence.

From the table on the following pages, it will be seen that in the domestic correspondence 601 words were misspelled once each, while 66 words were misspelled from two to 22 times each. In the business correspondence 619 words were misspelled once, while 45 were misspelled from two to six times each. The professional group shows 408 words misspelled once and 26 misspelled from two to five times each. In the personal and farmers' correspondence (grouped together) 238 words were misspelled from two to 21 times each. Only 52 of the 126 words shown in the table were misspelled two or more times in more than one of the groups. In comparing the number of misspelled words in the receptive groups it should be remembered that the groups do not represent an equal amount of material and that they are therefore not comparable when taken as a whole.

The table shows the words that were misspelled two or more times in each of the above named groups, the frequency of misspelling for each word in each of the respective groups, and the total number of times each word was misspelled in all the groups combined.

From this table it will be seen that a comparatively small number of the words which were misspelled in each of the respective groups were misspelled more than once, and that the majority of these were misspelled two times only. It will be

seen that only about a dozen words show any marked frequency of misspelling. Words that are misspelled only once in several hundred letters cannot be said to present any special spelling difficulty and it does not seem that those misspelled twice could be classed as such.

The essential conclusion which can be drawn from this tabulation of misspelled words is that there are relatively few of the words tabulated that show any special spelling difficulty.

### MISSPELLED WORDS

	Domestic	Business	Profes- sional	Personal & Farmer	Totals
account		2			2
addition		2			2
address		2			2
advertisement				2	2
against					
ain't	3				3
all right	14		2	21	37
answer	2				2
any	2				2
any time			2		2
any place			2		2
ask	2				2
aunt	2				2
baton	5				5
been	2	2			4
began	2				2
beginning	2	2			4
believe	4	2			6
be sure	3				3
borrow		2			2
both	2				2
bought			2		2
business	2	2	3		7
busy		2			2
buyer		3			3
by	5				5
cannot		2			2
can't	4				4
chautauqua	2				2
cleanliness			2		2
come		2			2
coming	9	5			14
competition				2	2

## SPELLING VOCABULARY

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daily		2			2
date	4				4
dear		2			2
defeated		6			6
deference		2			2
didn't	12	4	2		18
doesn't	1				1
don't	17				17
enough		2			2
envelope		2			2
especially	3				3
every time	2				2
expense		2	2		4
far	3				3
field	4				4
for		2		13	15
fore	2				2
friend	3		2	2	7
from	3				3
get	3				3
getting	2				2
good-bye	2				2
good day			4		4
gotten	2				2
hadn't	2				2
haven't	10			2	12
having	2	2			4
hear				2	2
here		2			2
holiday		2			2
I'm	5				5
inst.			2		
invoice		2			2
isn't	3				3
judgment		2			2
just	2				2
know	5				5
living	2				2
lovely	2				2
mamma	22		5	9	36
mason		2			2
may-be	4				4
more	3				3
morning			3		3
move		2			2
necessary			2		2
niece	9			5	14
night			3		4
no	2				2
Painted		2			2
pamphlet			2		2

possibly		2			2
practicing	2		2		2
privilege			2		2
probably		2			2
professor			2		2
racing				2	4
really				3	3
receipt		5			5
receive	2				2
reelected			2		2
referring		2			2
remember	2				2
respectfully				2	2
restaurant	2				2
rheumatism	3				3
secretary			2		2
shopping	3				3
since	3				3
sincerely		4			4
son		2			2
space		2			2
spasm		2			2
splendid			2		2
stomach	2				2
studying	2				2
sturgeon		2			2
success		2			2
suppose		2			2
surely	4				4
surprise		2			2
their	2				2
there	8				8
though	5		3		8
thought	8		4		12
through	3				3
to				8	8
tomorrow	2				2
unless		2			2
until	11	2			13
valise			2		2
wasn't			2		2
whether	3	2			5
Total No. of words misspelled two or more times each	65	45	26	12	148
Total No. of words misspelled once each	106	619	408	238	1371

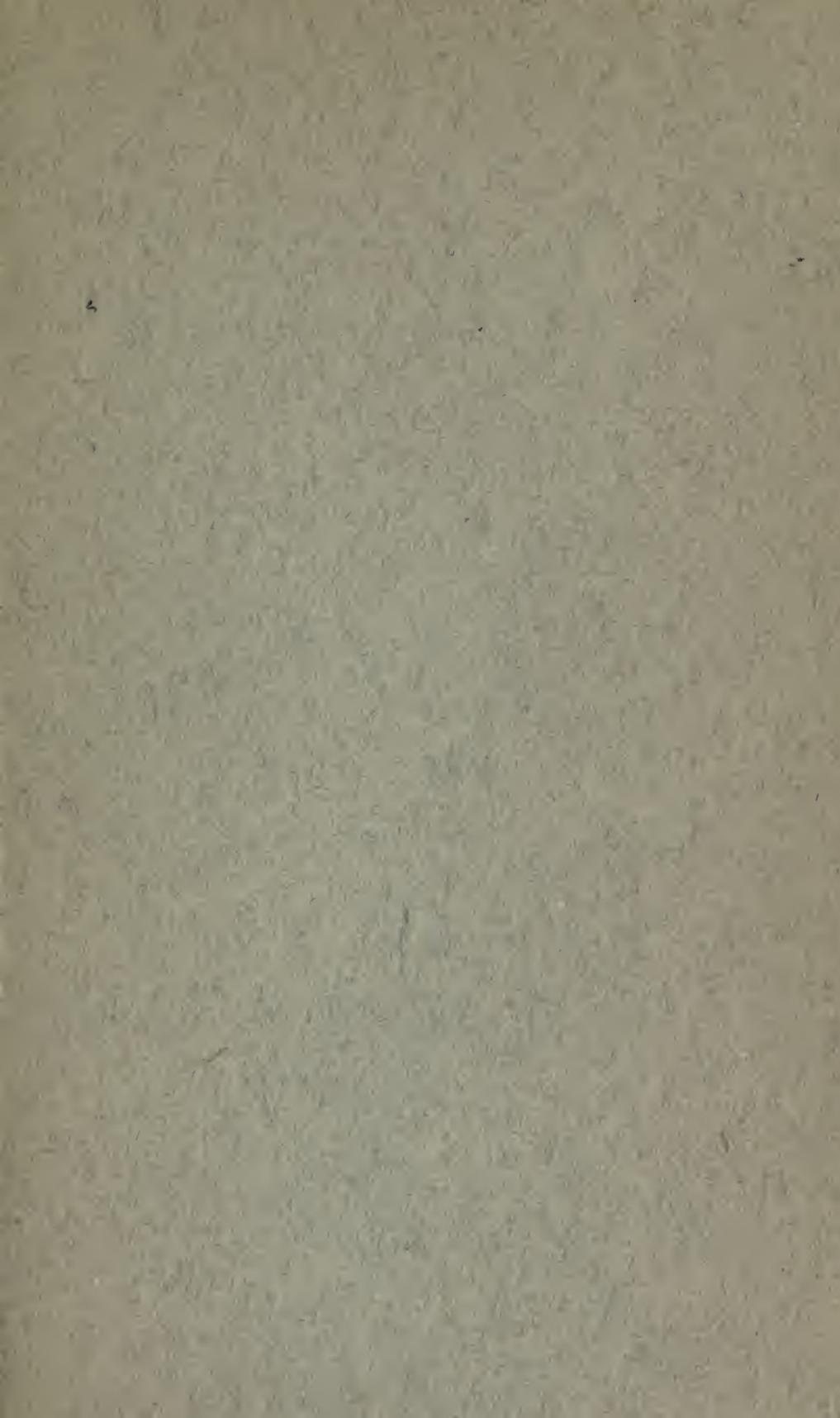
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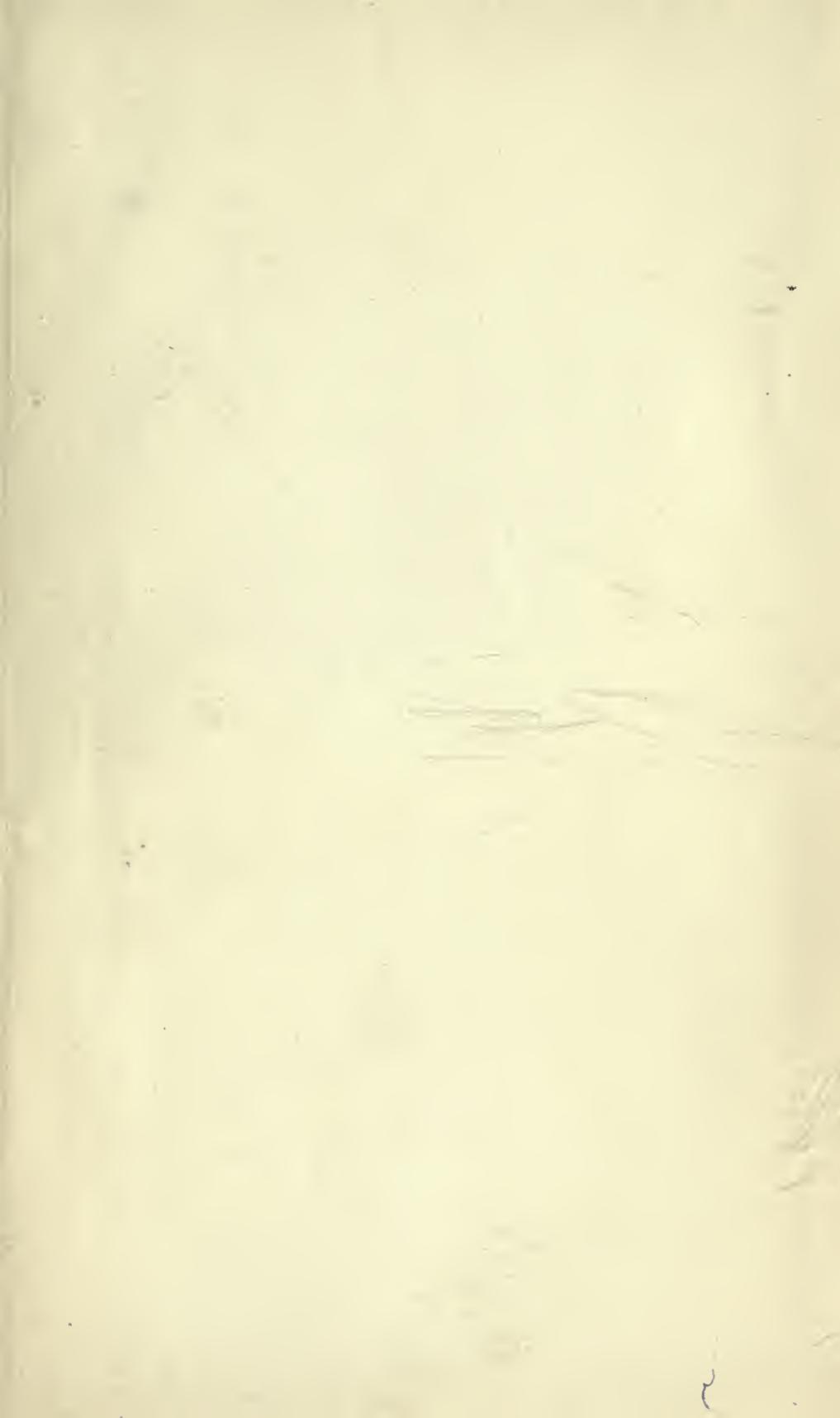
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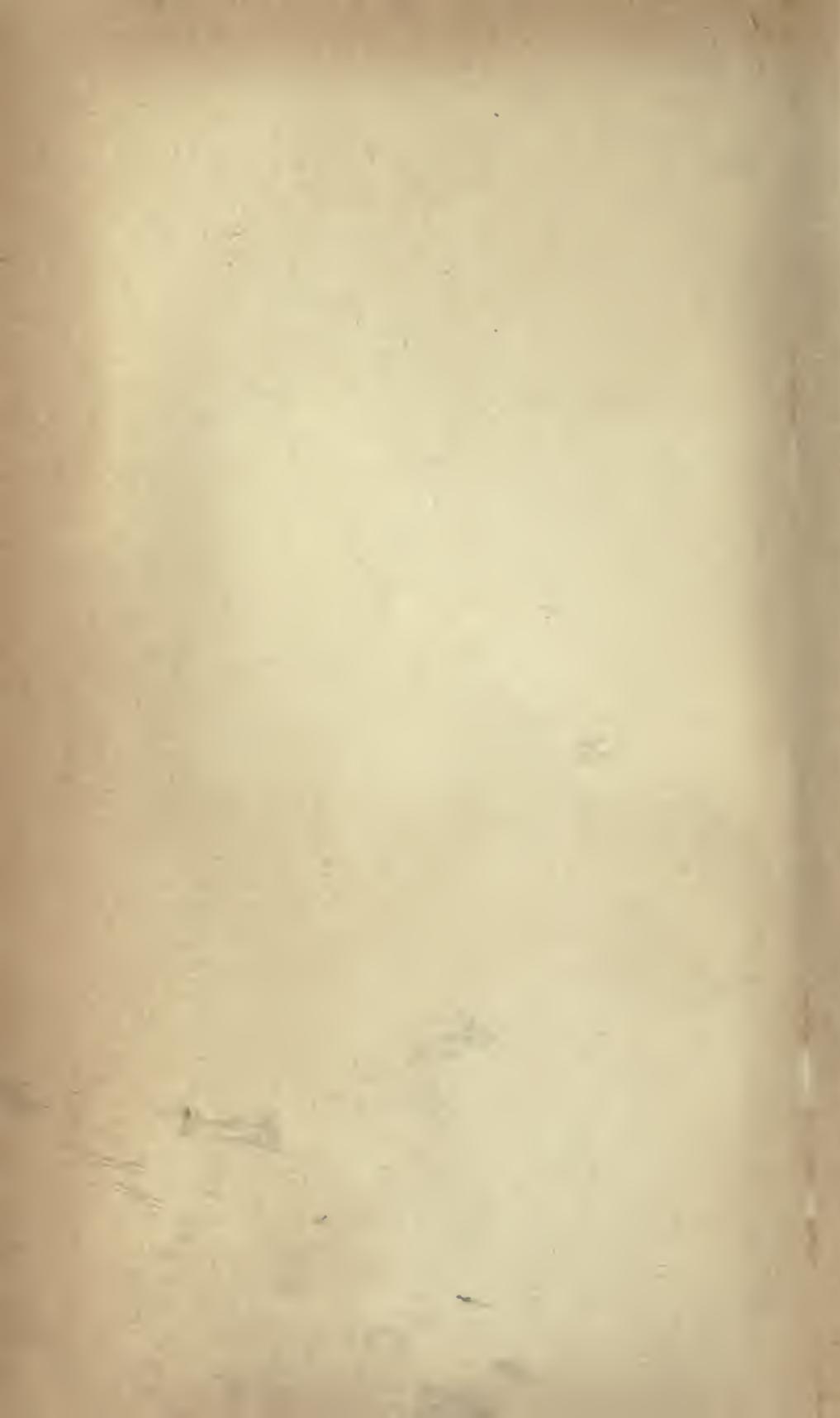
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